

One Size Does Not Fit All: A Qualitative Study Exploring Unlicensed Weight  
Loss Drug Use In Women

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## Abstract

The pervasive demand and desire for an ideal body evident in today's society has led to the normalisation of beautification and enhancement treatments. Unlicensed weight loss (UWL) drugs which comprise of 2,4 dinitrophenol (DNP), sibutramine and rimonabant are just one method used in enhancing and improving the body in line with social expectations. However, previous research exploring the use of these drugs has been confined to male dominated bodybuilding communities, despite women experiencing increasing pressures to look a certain way. This doctoral research explores the use of UWL drugs by women, focusing specifically on attitudes and perceptions of UWL drug use, motivations for use, experiences of use and self-reported adverse effects.

This qualitative research involved an online forum analysis. Online discussion forms (n=10) were selected based on their levels of popularity, the proportion of female users accessing them and because they contained relevant UWL drug discussion. All threads (470) relating to UWL drug discussion were downloaded and analysed using thematic analysis conducted through the software package NVivo version 10. Four forum moderators and three female UWL drug users were also recruited, with their interviews presented as case studies.

Online communities can provide a raft of knowledge concerning hidden or hard to reach populations. This research however advocates for greater consideration to be given to the methodological and ethical implications of online research and reflects on what is public information, the protection of anonymity and protecting online users from harm. This research also identified that removal of a license from a drug does not prevent use, but once outside regulatory control or medical supervision, UWL drugs are often purchased online with risks to the user of potential drug interactions, adulteration and contamination. UWL drug user engagement needs to be reclaimed as part of a wider health agenda, something that has been lacking due to the unlicensed status of the drugs. However, the findings highlighted the diverse motivations for why women use UWL drugs as well as differences in experiences, drugs used, willingness to take risks and adverse effects and argues against there being a typical female UWL drug user. Given this heterogeneity, a one size fit all model for harm reduction may be ineffective. Additionally the rapid changes in online communities as well as the diffusion of these drugs into

different populations creates another challenge for public health in identifying and targeting specific groups.

Online discussion of these drugs focuses on user experience and anecdotal evidence. Education on the different types of drugs as well as the risks and harms of using them is therefore warranted for all online communities as well as a focus on specific harm reduction strategies including harm minimisation, engagement with health care practitioners and peer to peer education. However, further consideration is needed concerning how this information should be disseminated, identifying those who have authority within the community, but also have the appropriate credentials, knowledge, skills and desire to offer advice.

# Dissemination

## **Presentations and Publications**

### **Conference presentations**

Jennifer Germain. *An exploration of the female use of unlicensed weight loss (UWL) drugs*. Public Health Institute internal seminar. January 2015. (oral presentation).

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## Abbreviations/terms used

### Abbreviations

BMI – Body Mass Index

DNP – 2,4 Dinitriphenol

GDS – Global Drug Survey

FDA – Food and Drug Administration

HED – Human Enhancement Drugs

IPED – Image and Performance Enhancing Drugs

NHS – National Health Service

OP – Original poster (Person who starts a thread within a forum)

PED – Performance Enhancing Drugs

PIED – Performance and Image Enhancing Drug

PM – Personal Message (Usually sent from one forum member to another)

T3 - Liothyronine

T4 - Levothyroxine sodium

UK – United Kingdom

UV - Ultraviolet

UWL – Unlicensed Weight Loss

WHO – World Health Organisation

### Terms

Forum – Online discussion board

Post – User submitted message posted on a forum within a thread

Thread – Topic or conversations within a forum

Newbie – New forum member

# Chapter 1. Introduction

## 1.1 Introduction

This doctoral research offers a detailed understanding of the female use of unlicensed weight loss (UWL) drugs. Specifically, this study provides insight into the differing female users of UWL drugs, their motivations for use, which drugs are discussed and being used by women and where they are being accessed. Furthermore, this study explores attitudes and perceptions around UWL drug use and the self-reported risks of using UWL drugs. Finally, this research considers what the appropriate response to UWL drug use in women should be as well as discussing the role of online forums in online harm reduction. This chapter will provide an overview of the background to the research, as well as how it was conducted, researcher reflections and aims and justification for the research. An outline of the thesis is also provided.

## 1.2 Rationale for the research

There are a number of weight loss drugs available on the market which fall into three main groups

- 1) Licensed weight loss drugs. These are drugs that are currently licensed for weight loss and can be accessed through the NHS. At present in the UK only orlistat is licensed for weight loss.
- 2) Licensed drugs but not for weight loss. These are drugs which are licensed for other conditions but are also used as weight loss drugs. These include T3 and T4 which are used to treat thyroid disorders and ephedrine which is used to treat asthma. Clenbuterol is used to treat asthma and is a controlled drug.
- 3) Unlicensed weight loss drugs. This includes weight loss drugs which have previously been licensed for weight loss use but subsequently banned such as sibutramine and rimonabant and those which are untested such as 2,4 Dinitrophenol (DNP).

Table 1 outlines the different type of weight loss drugs currently available on the market and their licensed status in the UK (Evans-Brown et al. 2012).



Table 1. Weight loss drugs available on the market

Status	Name	How it works
Licensed for weight loss (Prescription only)	Orlistat	Reduces dietary fat being absorbed
Licensed but not for weight loss (Prescription only)	Ephedrine	Increases metabolic rate
Controlled drug (Prescription only)	Clenbuterol	Increases metabolic rate
Licensed but not for weight loss (Prescription only)	T3 / T4	Increases metabolic rate
Unlicensed weight loss drug (Banned)	Sibutramine	Appetite suppressant
Unlicensed weight loss drug (Banned)	Rimonabant	Appetite suppressant
Unlicensed weight loss drug (Untested)	2,4 dinitrophenol	Increases metabolic rate

This research has focused upon the three main UWL drugs; DNP, sibutramine and rimonabant. Despite these drugs being unlicensed they are readily available to purchase online. The sale of drugs online can be either via the surface web or the dark web. Whilst traditional drug are more usually purchased via dark web, an online black market, involving anonymous communication via encrypted and hidden parts of the internet, lifestyle drugs such as UWL drugs are generally purchased via the publically accessible surface web (Koenraadt and van de Ven 2017). Whilst little information exists regarding how many people are purchasing these drugs and which drugs are being purchased the demand for such drugs online does appear to be high. For example a Google.co.uk online search of DNP - “buy DNP online” produces over 30,000 results. Research exploring marketing strategies used by unregulated online pharmacies found that they focused upon customer convenience, such as the websites being secure, quick or free delivery, discreet packaging whilst downplaying the potential risks of the products themselves (Orizio et al. 2010). Often websites which are selling weight loss drugs do not appear to be UK based but do post to the UK and are usually relatively inexpensive to purchase ranging from as little as 80pence per tablet. For sibutramine and rimonabant, which were previously licensed, information pertaining to these drugs is often taken from outdated NHS pages whilst failing to highlight that these drugs have since been withdrawn from the market. DNP is legally allowed to be sold as a chemical although not legally allowed to be sold as a weight loss product. Websites and sellers seemingly circumnavigate this by stating in small print that the drug is not for human consumption and is only being sold as a research chemical. However, the adverts and promotion remains heavily focused on the drug and its weight loss properties. Additionally these products are often advertised alongside legal herbal or

natural weight loss products, making it difficult for potential consumers to identify the differences between them.

Being unlicensed, these drugs are unregulated and particularly for DNP, where there have been no clinical trials testing its efficacy, the evidence concerning impact and risks of use are unknown. Consumers of these drugs are doing so without any input or support from health care professionals. This means there is far less protection from effects caused by drug interactions or drug related adverse effects. Furthermore, access to these drugs from potentially illicit markets provide no guarantees for accuracy of information given, the quality of drugs supplied, potential for online scamming or contaminated drugs (Koenraadt and van de Ven, 2017). This presents a risk of harm due to a lack of regulation and safeguarding in those using them. However, little research has explored the use of these drugs.

Research which does exist focuses mainly upon male dominated bodybuilding communities or single case studies in the case of DNP (Petróczi et al. 2015, McFee et al. 2004, McVeigh et al. 2016, Han Chih Hencher Lee et al. 2014) or the efficacy of the drugs prior to regulatory controls in the case of rimonabant and sibutramine (Arterburn et al. 2004, James et al. 2010, Sam et al. 2011, Scheen 2011). Furthermore, little is known specifically about the use of these drugs in women, despite women being under increasing contemporary pressures to conform to an ideal body shape (All Party Parliamentary Group 2012, Orbach 2009, Yamamiya et al. 2005).

Within Western society, the 'thin ideal' is pervasive, with women taught from an early age to be accepting and admiring of thin images, viewing those who do not conform to those ideal bodies as undesirable and unacceptable (Orbach 2009). Furthermore, there is an acceptance that women who are thin are considered more likely to be successful (Evans 2003) with women equating thinness to happiness. These pressures have been linked to the media where the focus is often on women who are thin and appearance focused (Dakanalis and Riva 2013, Fouts and Burggraf 1999, Grabe et al. 2008, Halliwell 2013, Harper and Tiggemann 2008, Harrison and Cantor 1997, Hawkins et al. 2004, Stice et al. 1994). Also discussed are pressures linked to social media, via a surge of photo shopped and edited images setting unattainable goals for women and contributing to lower levels of body confidence and body satisfaction (Fardouly et al. 2015, McLean et al. 2015, Royal

Society for Public Health 2017, Tiggemann and Slater 2013, Tiggemann and Zaccardo 2015).

Coupled with the drive for the perfect body is the increase in physical and cosmetic enhancement in order to reshape, hone and perfect bodies (Orbach 2009). Whilst cosmetic surgery figures have declined in recent years (British Association of Aesthetic Plastic Surgeons 2017), adverts for procedures such as Botox, lip fillers, and contoured makeup are commonplace in today's society and are often driven by celebrity and societal trends. Body reshaping and improvement dominates and is indicative of the appearance and image obsessed society where we currently find ourselves.

Beyond non-surgical and surgical cosmetic procedures, in recent years, there has also been a surge of interest in image and performance enhancing drugs (IPEDs)<sup>1</sup>. This group of drugs are designed to improve the body and mind and can be split into six broad categories (McVeigh et al. 2012). These are 1) muscle building drugs, 2) weight loss drugs, 3) drugs to change the appearance of skin and hair, 4) drugs to improve sexual function, 5) drugs to improve cognitive function and 6) drugs to improve mood. Whilst the focus of this research is on weight loss drugs, the rise and interest of other human enhancement drugs demonstrates the desire for perfect bodies and minds as well as the lengths in which people will go to achieve their goals.

The three UWL drugs of focus within this doctoral research are; DNP, sibutramine and rimonabant. DNP is a fat burner, first used during World War 1 in the munitions industry (Grundlingh et al. 2011, Phillips and Singer 2013, Petroczi et al. 2015, McVeigh et al. 2016) in making explosives. It was later found to act as a weight loss agent resulting in DNP being marketed and readily available to the general public during the 1930s (Margo and Harman 2014). However, DNP has a narrow therapeutic range meaning that there are little differences between toxic and therapeutic doses. Side effects associated with using DNP include hyperthermia, tachycardia, cardiac arrest and coma amongst others (Petroczi et al. 2015). The combination of these side effects can result in death (Yen and Ewald 2012). Due to linked harms and a number of deaths identified following DNP use, it was withdrawn from the market in 1938 (Yen and Ewald 2012). Sibutramine and rimonabant are both

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<sup>1</sup> Please note, IPEDs can also be referred to as Performance and Image Enhancing Drugs (PIEDs), Human Enhancement Drugs (HEDs) and Performance Enhancing Drugs (PEDs) and are often used interchangeably

appetite suppressants, previously available as anti-obesity drugs on the NHS in the UK. However, after sibutramine was linked to increased risk of tachycardia, hypertension and arrhythmias (Arterburn et al. 2004, Caterson et al. 2012, James et al. 2010, Padwal and Majumdar 2007, Scheen 2011) and rimonabant linked to an increased risk of psychiatric adverse effects (Astrup et al. , Burch et al. 2009, Caterson et al. 2012, Padwal and Majumdar 2007, Sam et al. 2011, Wathion 2009), they were both withdrawn from the market. Despite this, today, all three drugs are readily available to purchase online, sold with no regulations or safety measures put in place.

It is important to note that whilst the focus of the research here is based within the UK and focused predominately on Western women, body image concerns are not unique to Western women. Additionally, what each culture considers to be beautiful will differ and is influenced by the ideals of each particular culture. However the 'thin ideal' is now more pervasive than ever, both in Western and non-Western cultures and intrinsically linked to levels of Westernisation, modernisation and socio-economic status within each culture and community (Swami 2015). With body image concerns not being unique to the UK or Western cultures, the use of enhancement drugs to improve and hone one's body is also not restricted to the UK or Western society. The globalised nature of the internet and the speed in which online drug markets change, update and adapt poses problems for public health and enforcement and also means that the accessibility and availability of enhancement drugs is now more far reaching than ever before. Enhancement drug use is now a significant public global health challenge with their use being displaced from bodybuilding and athletic subgroups into mainstream populations (Van Hout and Kean 2015). For example, anabolic androgenic steroids have a global lifetime prevalence rate of 3.3%, 6.4% for men and 1.6% for women (Sagoe et al. 2014) and their use is now being seen increasingly amongst the general population (Zahnow et al. 2017). For weight loss drug use, data take from the Global Drug Survey (GDS) 2015<sup>2</sup> shows that 4,048 respondents had ever taken a weight loss drug<sup>3</sup>. Respondents who had used a weight loss drug resided across 63 countries with the highest proportions coming from Germany

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<sup>2</sup> Public Health Institute has access to data generated from the GDS. Data presented here is from unpublished analysis conducted by the researcher. Syntax for creation of variables can be found in Appendix A

<sup>3</sup> Ephedrine, DNP, Sibutramine, Clenbuterol, Rimonabant, T3 and T4

(38%), Brazil (16%), United States (7%), United Kingdom (5%) and Australia (4%). It should be noted that whilst there is limited evidence exploring weight loss drug use globally, the data within the GDS does suggest that use of weight loss drugs is not limited to the UK. Whilst the scale of the problem of weight loss drug use does appear to be global, the remit and focus of the research presented here is national.

### 1.3 Rationale for the methods

This research employs a qualitative design that comprises of a comprehensive online forum analysis of UWL drug discussion and interviews with online forum moderators and UWL drug users to explore motivations, experiences and attitudes surrounding UWL drug use. The largest component of this research was an online forum analysis. Online research methods are particularly useful when researching illicit or sensitive behaviour, which may be judged in the offline world or where populations may be undefined, not obvious or hard to reach (Germain et al. 2017, Barratt and Lenton 2010).

Harm reduction aims to reduce negative consequences associated with engaging in potential harmful behaviour such as the use of drugs (Stimson 2016). Successful harm reduction strategies include early adoption of needle exchange programmes which contributed to the avoidance of a major drug related HIV infection epidemic in the UK (Ball 2007, Stimson 2016). Harm reduction strategies for drugs can include safer ways of using, spaces which facilitate safer uses of substances and the dissemination of harm reduction information. Whilst there is little research exploring harm reduction in UWL drug users, research with users of other enhancement drugs such as AAS has found that interventions employing scare tactics are ineffective as well as users being reluctant to seek or take advice from health care professionals (Pope et al. 2004, Ainsworth et al. 2018, Petróczi et al. 2014). Online communities have been identified as ideal places for the dissemination of harm reduction strategies (Davey et al. 2012) and are often used in sharing advice around drug practices, including the safety of drugs, side effects and user experiences (Soussan and Kjellgren 2014). Furthermore, online forums may be ideally placed for the sharing of this information (Davey et al. 2012), particularly in those communities which have a strong identity and sense of community. For UWL drug use, little is known about the users and due to the illicit status of the drugs, it is likely to be a hidden and covert behaviour amongst users who additionally may not view themselves as drug users and may

not traditionally be in contact with health professionals about their drug use. However, UWL drug discussion online is plentiful, with online forums presenting a natural opportunity to find out about UWL drug use and those who use them. Furthermore, this research can explore the types of information being shared online as well as what methods in disseminating advice is effective.

The predominately online nature of this research was a pragmatic decision made due to a lack of knowledge about the users of UWL drugs. However, the methodological and ethical considerations given in researching online forums in this doctoral research became as important as the content and findings from the online forums. Although procedures for conducting online research exist, for example in Kozinet's netnography (Kozinets 2002, Kozinets 2010, Kozinets 2015), researchers often differ in how much information they provide about how they selected their online communities. Furthermore, the amount of consideration given to the ethical implications of conducting online research, such as consent, private versus public online spaces and the use of verbatim quotes also varies. This issue is exacerbated by the lack of clarity in ethical guidelines (Trevisan and Reilly 2014) as well as inconsistencies in how ethics committees view online research (Sharkey et al. 2011). The detailed consideration within this doctoral research, given to both methods employed in selecting appropriate and relevant online communities, as well as the ethical implications associated in conducting research of this nature is a significant feature of this work and has contributed to the debate around the use of online methods in research.

#### 1.4 Researcher reflections

Throughout this thesis, I have presented a number of reflections that occurred at various points during the research process. My personal and broader interest in the topic of body dissatisfaction in women however, originated when studying for my BSc degree in Psychology. Here, I learnt about how sociocultural pressures as well as early childhood influencers and biological factors could influence eating behaviours and practices. Furthermore, I became interested in how pressures on women could influence levels of body satisfaction as well as the methods used in order to achieve an ideal body. This interest was exacerbated through my own experiences as a woman living in an image conscious society and my own personal issues with body dissatisfaction and excessive

dieting. Throughout my time working as a researcher within the Public Health Institute, I became aware of the area of image and performance enhancement drugs. Whilst, this was not a research area I was particularly involved in at that point, I became fascinated by this group of drugs and the use of these drugs in order to achieve the 'perfect body and mind'.

When beginning to plan for this research, I quickly realised the extent to which these drugs are discussed online. I equally became fascinated by the seemingly real connections and relationships people fostered online; people brought together by a shared interest and who may feel embarrassed or judged discussing these matter in 'real life'. In some ways, the online nature of this research became equally if not more important than the research topic and drove my interest of online methods and the use of online communities to share experiences and advice. It became apparent to me that the level of UWL drug use discussion online firstly indicated a growing interest in this group of drugs but also meant that users of these drugs were gaining information from often anecdotal and wildly differing experiences. This, coupled with the limited research conducted which explored the use of UWL drugs presented an appropriate, growing and under-researched public health issue.

### 1.5 Aims of the research

This research provides an overview of the female use of UWL drugs and the types of UWL drug related discussion that occurs within online communities. A systematic process for conducting online research has been presented as well as an exploration of the characteristics of UWL drug users and online forums where this discussion resides. A particular focus is given to the influencers, structure, content and perceptions of risks of UWL drug use on those forums. The motivations for both UWL drug use and online engagement have also been explored. This research has identified the ways in which women engage on online forums as well as exploring the ways in which information is shared and how the environment of the forums plays a role in this. Additionally, this research has contributed to the current knowledge base of the users of UWL drugs as well as considering the need for UWL drug user engagement to be reclaimed as part of wider health agenda.

The overarching objectives for this doctoral research were fourfold and designed to:

- 1) Identify attitudes and perceptions of UWL drug use;
- 2) Identify the self-reported risks of using UWL drugs;
- 3) Identify the reasons and motivations behind why UWL drug users begin to use UWL drugs and the associated trigger points;
- 4) Assess the role of online forums in health promotion and sharing of harm reduction information.

### 1.6 Overview of thesis

This doctoral thesis is based on work from three studies. The first part of this thesis (Chapter 2), the literature review places the research in the context of the literature. In particular, focus is given to the increasing pressures on women to have an 'ideal body' and the ways in which women are attempting to achieve their ideal physique. Discussion around the rise of human enhancement drugs is also presented with a focus on how these drugs are being used to shape and perfect the body. The different groups of weight loss drugs and a rationale for focusing upon UWL drugs is provided. Finally, the role of online communities in sharing experiences and advice are also discussed within the context of UWL drugs and weight loss in the pursuit of the ideal female body.

Chapter 3 describes the methods employed within this research. Particular focus is given to methodologies and protocols in how to select online communities for use in research and a systematic process for online research is described. An overview of the methods used in each of the studies is also provided. Chapter 4 provides an in-depth analysis of each of the online communities included with the research focusing upon the types of discussion occurring, the advice given and the dynamics within the communities. Chapter 5 presents the findings from the thematic analysis of online communities. Five themes are discussed which are; 1) Perceptions around the use of weight loss drugs, 2) Motivations for the use of UWL drugs, 3) UWL drug avoidance, 4) Experiences of using UWL drugs and 5) The UWL drug user. Chapter 6 presents interviews from both online community moderators and UWL drug users which are presented as case studies. The final chapter (Chapter 7) presents the integrated findings from all studies. The chapter discusses the different types of UWL drug user, the different types of online communities as well as offering advice for the role of online forums in harm reduction. Ethical considerations in conducting online research are also discussed. The thesis is concluded by discussing the



strengths and limitations of the studies as well as offering implications for future research, practice and policy.

## 1.7 Overview of the research

Figure 1 provides an overview of the specific studies within this PhD and how they will each contribute to UWL drug use knowledge, online communities and harm reduction. In particular each stage adds to knowledge around the heterogeneity of online drug communities, forum moderators and UWL drug users.

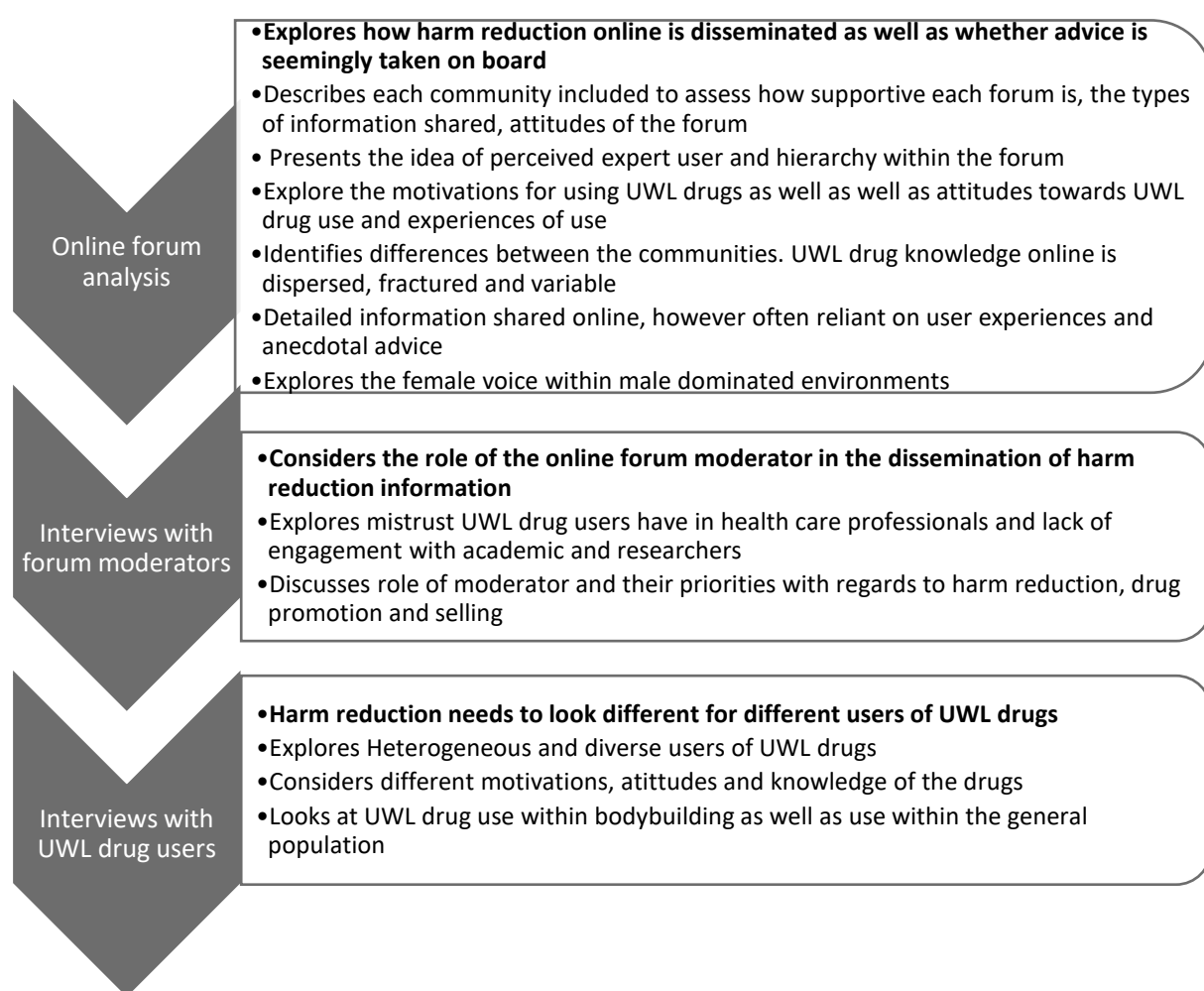


Figure 1. Overview of research stages

## Chapter 2. Literature Review

### 2.1 Introduction

This chapter provides a review of literature examining the use of unlicensed weight loss (UWL) drugs taking into account the complex interplay of societal, cultural and technological influencers for why women may use enhancement drugs, in particular UWL drugs. The growing use of all human enhancement drugs and their harms will be discussed as well as issues around body image and the pressures on women to have an 'ideal body'. As this research is focusing on online discussion of UWL drug use, consideration will also be given to the role of online communities, the dynamics of these communities and the impact they have on drug use.

Literature searches were conducted to identify women's issues around body image, to identify publications exploring the use of enhancement drugs as well as those that had made use of online communities in their research. Attention was also given to the online group dynamics of these spaces as well as their role in harm reduction. Searches of PubMed, PsychInfo, Medline and Science Direct databases as well as Google Scholar were carried out using the key phrases: weight loss drugs, 2,4-dinitrophenol, DNP, sibutramine, rimonabant, human enhancement drugs, performance and image enhancing drugs, online forums, online communities, and harm reduction. Additionally, manual searches of found papers reference lists, Government websites and the World Health Organisation (WHO) were conducted. Each identified record was considered against the specific aims and research questions (see 4.1) as well as the relevance of the methods used, particularly when searching for studies making use of online methods.

Whilst the literature around the use of weight loss drugs is limited, a suitable starting point for this research was to explore why women may use weight loss drugs. In order to do this, it is important to consider the contemporary wider social and cultural context in which women find themselves, in particular the beautification, sexualisation and objectification of women and the normalisation of enhancement and beautification treatments in order to achieve their perceived ideal body.

## 2.2 Social and cultural context

*“What is beautiful is good”* (Dion et al. 1972 p.285)

### 2.2.1 Pressures on women to have an ‘ideal body’

There are contemporary pressures placed upon women to be slim, tanned, toned and beautiful. Idealized, sexualised and normalized media images of the ‘perfect woman’ are abundant in Western modern society and this coupled with wider societal and cultural pressures on women has led to growing body image concerns (Yamamiya et al. 2005). It has been argued that the pressures to conform to a thin ideal is greater for women than men within Western society (Grogan 1999). Whilst thinness is now idealised, previously the ideal female body was fuller figured, rounder and softer up until the late 19<sup>th</sup> century. This shift towards thinness seemingly coincided with a sense of women’s perceived competencies moving away from maternity and instead towards superficial aspects associated with beauty and appearance (Swami 2015). This shift towards the thin ideal is epitomized by the growing use of the corset during the 19<sup>th</sup> century. Whilst in Western society, body ideals have changed over the years, e.g. from flat chested athletic flapper dancers to the slim but curvy Marilyn Monroe type figure, slimness has stayed consistent throughout (Swami 2015).

It is important to note that whilst the focus of the research here is on Western women primarily those based in the United Kingdom (UK), body image concerns are not unique to Western women. Furthermore, what is considered beautiful within each culture is influenced by the ideals of each particular culture and previous research has identified that a move from one culture to another may lead to a change in the perceived idealised body (Grogan 1999). Historically, in more deprived cultures, thinness was equated with malnutrition, poor health and poverty with increased weight seen as a sign of wealth (Grogan 1999) and research conducted in the 1980’s and 1990’s found that some ethno-cultural groups associated a larger female body with marriageability, attractiveness and fertility (Townsend et al. 2014). From this, in the 20<sup>th</sup> century a distinction was made between the thin ideal in Western society and plumper and curvier figures in Non-Western society (Swami 2015). Whilst body image concerns are often considered to be ‘culture bound syndromes’ that only impact upon Western women, it is less clear whether these cultural differences still exist (Swami 2015). Research has shown that many women in Non-

Western cultures are equally determined to achieve a thin ideal (Jung and Lee 2006). For example, findings have shown high levels of body dissatisfaction in young girls and women in Korea and this was linked to higher levels of awareness and internalisation of Western appearance ideals (Hye-Ryeon Lee et al. 2014). Similarly, studies asking participants to rate images found that both Western and non-Western communities rated the thinner figures as the most attractive (Swami 2015). The 'thin ideal' is now more pervasive than ever, both in Western and non-Western cultures and intrinsically linked to levels of Westernisation, modernisation and socio-economic status within each culture and community (Swami 2015).

Specifically within Western cultures, Orbach (2009) explores the inescapable obsession with the acquisition of physical perfection. In particular, Orbach discusses how pressures relating to body image are placed upon women from an extremely early age and illustrates this point with Miss Bimbo, an online game, aimed at young girls with the main aim of the game to keep the doll thin and attractive through the use of diet pills, breast augmentation and facelifts. Orbach argues that young girls are being primed to be teenagers and later accepting of fashion models with skeletal figures shown in magazines, as well as the means required to achieve that body. Beyond this, the use of diet pills in an online game normalises this behaviour and contributes towards body preoccupation becoming second nature. Orbach argues that bodies are increasingly becoming viewed as objects which can be honed and improved and that women feel better and in control when finding fault with their bodies and improving them without realising that these feelings are the result of outside pressures.

Orbach also suggests that whilst fashions change, the one constant is being thin and thus women become prey for both fashion and diet industries which establish these body ideals and exhort women to meet them (Orbach 1986). The advent of social media means that pressures upon women are further intensified through the constant stream of filtered, edited and photo shopped images, with those uploading these images found to have higher levels of body dissatisfaction (McLean et al. 2015) as well as those viewing the images (Tiggemann and Slater 2013). Furthermore, evidence indicates that peer comparisons can have an even more devastating impact on self-esteem than comparisons made to celebrities or models (Fardouly et al. 2015). Women who make these

comparisons, whether through the media, social media or peer comparison and buy into the idea of a thin ideal may simply be equating thinness with happiness (Evans 2003). This is something which Orbach argues is drilled into women from an early age, with being overweight seen as deviant. Language such as the 'obesity crisis' epitomises this, suggesting that bodies which are obese are out of control, require discipline and are therefore ultimately nonstandard and undesired (Orbach 2009).

### 2.2.2 Impact of body image pressures on women

*"Most women are able to describe what is wrong with their body with no difficulty, but find it hard to identify any part that is satisfactory" (Grogan 1999 p.33)*

Idealised thinness is linked with being happy, successful, youthful and accepted. Being overweight is equated with laziness and having no will power, with slimness in women considered the ultimate desirable attribute (Grogan 1999). These contemporary and increasingly significant pressures to conform to an idealised body manifest in how women feel about themselves. Findings from the British Social Attitudes survey found that only 63% of women are satisfied with how they look and around three quarters of those surveyed felt there was too much pressure on women to have a sexualised appearance (Government Equalities Office 2014). Furthermore, a large proportion (87%) of girls and young women aged between 11 and 21 years of age felt that women were judged more on their appearance than ability (Swinson 2013).

Dissatisfaction with the body is often centred on an individual's weight and many women attempt different strategies in order to try to lose weight. Estimates indicate that 95% of women have at some point in their lives been on a diet and information from a survey published in 2004 found that 15% of adults in the UK were at that point trying to lose weight (McMurray 2004). A study carried out in America found that 75 million dieters had spent close to \$61 billion on weight loss products during 2010 (Yen and Ewald 2012). Diet culture is pervasive in our society, global weight loss and weight management markets have been estimated at approximately \$158.2 billion in 2015, a figure that is expected to reach \$259.8 billion by 2022 (Industry Today 2017, Yen and Ewald 2012). In the UK specifically, it was estimated that on average a woman spends approximately £25,000 on diets throughout her lifetime (One Family 2010).

During 2011 and 2012, an inquiry was established by the All Party Parliamentary Group on Body Image, using evidence from online consultation with the general public, as well as expert witnesses giving evidence relating to body image at the House of Commons. The subsequent report (All Party Parliamentary Group 2012), found that 42% of women felt that one of the most negative elements of being women was the pressure to look attractive. The inquiry also found that pressures to conform to an ideal body were evident in those of a young age, with between one third and half of young girls being scared of becoming fat and one in four seven year old girls having attempted a weight loss strategy at least once. Finally, this report underscored that high levels of body dissatisfaction manifest in a number of negative consequences including higher prevalence of disordered or unhealthy behaviours, such as depression, eating disorders, low self-confidence, reduced participation in sport and social activities and wider societal issues such as higher levels of drug and alcohol use and unemployment.

### 2.2.3 The role of the media

*“Even though virtually all women are exposed to idealized media images, it is clear that not everybody is ashamed of their body appearance.” (Dakanalis and Riva 2013 p. 217)*

Body image concerns have been documented in girls as young as seven and these concerns are evident amongst girls and women of different body sizes and ethnicities (Grabe et al. 2008, All Party Parliamentary Group 2012). The role of the media in contributing towards body image concerns in women has been well documented and is apparent in many aspects of the media. When we consider the presence of women and girls in television and film, those who are considered overweight are far less likely to be seen on screen than those who are underweight. Furthermore, women who are below an average weight are far more likely to receive positive comments on their appearance than those above an average weight (Fouts and Burggraf 1999). Overall, there is a difference between women portrayed in the media (who are becoming thinner) and those in the real world where size and weight is generally increasing (Evans 2003). However, this depiction can also reflect real life with overweight people being treated in a different manner to their peers and judged as being less popular, attractive and successful (Grogan 1999).

Previous literature has focused upon the role of press media (Myers and Biocca 1992) in causing or at least increasing the risk of body dissatisfaction and eating disorders (Harrison and Cantor 1997, Stice et al. 1994). Women themselves feel that the media has a strong influence on their body image, with 70% of women (compared to only 40% of men) citing the media, including television and magazines as a major contributory cause of body dissatisfaction (All Party Parliamentary Group 2012). Additionally, women often do not like how other women are represented in the media, with 90% arguing that television and magazines focus too much on the appearance of women, as opposed to their achievements.

Despite women feeling that the media is impacting on their body image and much literature claiming the strong link between negative body image and the media (Harper and Tiggemann 2008, Hawkins et al. 2004, Anschutz et al. 2008, Harrison et al. 2006), this argument has been challenged. Instead, it has been argued that whilst the media's presentation of thin ideals can have an effect on body image, this is limited to a subgroup of women who already have body dissatisfaction (Ferguson 2013). This argument is further supported by literature which claims that women who have a positive body image are 'protected' from thin ideals in the media (Halliwell 2013). Halliwell (2013) suggests that we should focus on promoting positive body image as an effective intervention strategy for protecting women against the negative impact of thin ideals.

#### 2.2.4 The impact of social media

*"Women evaluate their own appearance by comparing themselves with the cultural ideals of beauty and thinness presented in the media. Almost invariably this will be an upward comparison by which women fall short, resulting in dissatisfaction with their own appearance and body."* (Tiggemann and Zaccardo 2015 p.62)

Media comparisons (Dakanalis and Riva 2013, Halliwell 2013, Harper and Tiggemann 2008, Harrison and Cantor 1997, Hawkins et al. 2004) and pressures on women to conform to an idealised body (Evans 2003, Grogan 1999, O'Dea and Cinelli 2006, Orbach 1986, Orbach 2009) have well been documented. The advent of social media and the impact these platforms can have on women's body image are in recent years becoming better researched (Holland and Tiggemann 2016, McLean et al. 2015, Meier 2013, Royal Society for Public Health 2017, Tiggemann and Slater 2013, Tiggemann and Zaccardo 2015). Social

media sites allow users to create online profiles where they can interact with other members of the same sites (Holland and Tiggemann 2016). Previous research has found that young women are more likely to engage with social media than their male counterparts (Kimbrough et al. 2013) and this group are one of the most at risk for higher levels of body dissatisfaction (Fardouly et al. 2015). A survey published by the Royal Society for Public Health alongside the Young Health Movement (Royal Society for Public Health 2017) found that among 14-24 year olds, social media negatively impacted on this groups body image, as well as increasing levels of anxiety and depression. The social media platforms with the greatest negative impact were Instagram and Snapchat, both platforms with a focus on heavily filtered photograph sharing. The authors of this report argued that edited and photo shopped photographs are becoming the norm and contributing to low levels of body satisfaction and body confidence. Other studies have found lower levels of body confidence in Facebook users as opposed to non-Facebook users (Tiggemann and Slater 2013) as well as positive relationships between social media use, body image concerns and disordered eating (Holland and Tiggemann 2016). Even in social media considered to have a positive message, such as fitspiration posts<sup>4</sup>, there appears to be negative consequences on body image. Tiggemann and Zaccardo (2015) found that women who were exposed to fitspiration images had increased body dissatisfaction and negative mood when compared to those who viewed neutral images. Other research has found that appearance exposure on Facebook, i.e. the proportion of photo related features used on Facebook relative to participants overall Facebook use positively correlated with body dissatisfaction and a drive for thinness (Meier 2013). The authors concluded that their findings did not simply show that social media exposure causes body dissatisfaction. Instead, they argued a more complex relationship whereby those who already have a high level of body dissatisfaction sought out and engaged with social media, which further exacerbated or reinforced negative body image.

One major theory which has been linked to both the media and social media effect on body image is social comparison theory which argues that individual's drive for self-evaluations encourages them to compare themselves to others (Festinger 1954) with peer

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<sup>4</sup> Amalgamation of fitness and inspiration, meant to empower body image and presented as a healthier alternative to another Internet trend, thinspiration (thin and inspiration) which consists of images of thin and emaciated women.



comparisons thought to be the most importance and impactful appearance comparisons (Tiggemann and Zaccardo 2015). These comparisons are driven by and contributing to the wide levels of body dissatisfaction seen in women and has been linked to the use of drugs in order to alter appearances and enhance bodies (O'Dea and Cinelli 2006).

#### 2.2.5 The normalisation of enhancement

*“A relentless desire to reshape the body is evident everywhere.” (Orbach 2009 p.5)*

Orbach (2009) discusses the rise of physical enhancement and reshaping of bodies citing an increase in the numbers of gym and health bars, as well as advertisements for cosmetic surgical procedures. Orbach goes on to say that we are now moving away from the body being the means of production to the production itself, exacerbated by celebrity culture and branding, with our bodies becoming a form of work. This desire to reshape the body is heightened by the fact that the ability to enhance it is now so pervasive in our society. Adverts for such procedures as botox, lip fillers, false tan, eyelash extensions, hair extensions and contoured make up are everywhere and completely commonplace in today's society.

As to be expected the use of beautifying agents in general are on the increase. An example of this is sunless tanning, where estimates indicate that 11% of American adults had used sunless tanning products in the previous year such as tanning booths and false tan (Stryker et al. 2007). A more recent review of what the authors classed as indoor tanning (using an UV emission device) found a lifetime prevalence of 37% for adults, 55% for university students and 19% for adolescents (Wehner et al. 2014). Furthermore, Wehner et al. (2014) found that 14% of adults, 43% for university students and 18% for adolescents had used sunless tanning in the previous 12 months.

Up until 2016, cosmetic surgery in the UK was on the increase, reaching an all-time high in 2015 of 51,140 procedures, with 46,526 of these undertaken in women. During this time for women the most popular procedures were for breast augmentation, eyelid surgery, face and neck lift as well as liposuction and fat transfer (British Association of Aesthetic Plastic Surgeons 2016). In 2016, however, the number of cosmetic surgeries dropped by

approximately 40% (British Association of Aesthetic Plastic Surgeons 2017). The reasons for this are unclear, and could be due to an uncertain economy, people considering the risks of cosmetic surgery more carefully or due to people travelling abroad for cheaper operations (Hanefeld et al. 2015). Alternatively, the availability of non-surgical procedures such as Botox, chemical peels, lip fillers, tanning, make up contouring and teeth whitening could also play a part. Whilst at first glance this decrease in cosmetic surgery procedures suggests that women are becoming less body focused, it in fact appear that that methods in how the ideal body and look are being achieved has just shifted and this is often celebrity and trend driven. This drive is epitomised by the surge of interest in lip fillers following their use by the high profile celebrity, Kylie Jenner, (Ward et al. 2017).

Another method which can be used to improve the body is through the use of image and performance enhancing drugs (IPEDs). IPEDs<sup>5</sup> includes drugs to improve muscle such as anabolic steroids and growth hormones, drugs to improve the skin such as melanotan II and bremelanotide, drugs to improve cognitive function and sexual functions as well as a group of drugs used for weight loss purposes. Whilst data on the numbers using these drugs is scarce, a recent review indicated a global lifetime prevalence of 3.3% for anabolic steroid use (Sagoe et al. 2014). There is very little information available on the prevalence of UWL drug use however prescriptions for licensed weight loss drugs, have until recently been on the increase (Health and Social Care Information Centre 2014). The next section will discuss the rise of IPEDs, with a particular focus upon weight loss drugs.

### 2.3 Human enhancement drugs

The desire to look a certain way and the use of enhancement drugs to improve the body or mind is not a new phenomenon. Historically, people have frequently used 'quick fixes' in order to make both their body and mind look and work better. However, it was during the 1880s that this market really begin to grow, in part due to a lack of regulation concerning the marketing of products as well as developments in drug manufacturing. By the mid-1930s 'secret remedies' in the United Kingdom and 'patent medicines' in the United States were big business, with DNP, used for weight loss, at the forefront of popularity (McVeigh et al. 2016). Drugs at this time were widely and publically available

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<sup>5</sup> Please note, IPEDs can also be referred to as Performance and Image Enhancing Drugs (PIEDs), Human Enhancement Drugs (HEDs) and Performance Enhancing Drugs (PEDs) and may be used interchangeably

and targeted towards people's insecurities, most commonly at 'male weakness' (often erectile dysfunction and premature ejaculation), baldness and those who were overweight (McVeigh et al. 2012). Between the late 1930s and early 1960s, as a response to drug disasters such as thalidomide (treatment for morning sickness during pregnancy which caused birth defects in thousands of children (Kim and Scialli 2011), increased legal and regulatory systems were put in place including requirements for medication testing, and restrictions on which drugs could be sold and who they could be sold to (Evans-Brown et al. 2012). Despite this, availability of off label, diverted and counterfeit drugs on the illicit market continues, although enhancement drugs were until recently predominately used by elite athletes or bodybuilders (McVeigh et al. 2012). However, in part due to the globalised and networked world we now live in, market demand as well as increased pressures to look a certain way means drugs designed to improve, hone and perfect are once again becoming prominent.

Enhancement drugs which are currently being used fall into six broad categories which are:

- Those to increase the structure and function of muscle, e.g. anabolic steroids, growth hormones
- Those to enhance weight loss, e.g. appetite suppressants, fat burners
- Those to change the appearance of skin and hair, e.g. mercury creams, melanotan II
- Those to improve sexual function and behaviour, e.g. sildenafil
- Those to improve cognitive function, e.g. modafinil
- Those to improve mood and social behaviour, e.g. fluoxetine

Whilst this research focuses upon UWL drugs it is interesting to consider these other groups of enhancement drugs, which cater for and signify the demand for perfect bodies and minds and the desire to be 'better than well' (McVeigh et al. 2012).

## 2.4 Weight loss drugs today

The weight loss industry is an expanding business; estimates indicate that health problems associated with being overweight or obese cost the NHS over £5 billion per year (Department of Health and Social Care 2015). Around two thirds of adults are now obese or overweight (NHS Digital 2017b) with the prevalence of obesity increasing by 11%

between 1993 and 2014 (NHS Digital 2016). However the prevalence of those underweight has also increased somewhat with women more likely to be underweight than men (Public Health England, 2014). The amount of money being spent on reducing weight by the public is vast resulting in a poignant contrast between increasing obesity levels and the desire to be body beautiful that equates with the tanned, fit, slim ideal.

Research has examined the characteristics of those who are engaged in unhealthy weight loss strategies such as the use of weight loss pills. One such study based in America looked at the longitudinal effects of dieting and unhealthy weight loss strategies on body mass index (BMI) over a 10 year period. In this study middle school and high school male and female adolescents were asked a series of questions relating to their eating behaviours and then followed up 10 years later to look at their subsequent eating behaviour and any potential effects on BMI (participants had a mean age of 12.8 years at the beginning of 10 year period; mean age of 23.3 years at the 10 year point) (Neumark-Sztainer et al. 2012). Unhealthy weight loss strategies included the use of fasting, diet pills, laxatives and the use of food substitutes. It was found that there was a much higher prevalence of unhealthy weight loss strategies in women (43.7% of females and 18.7% of males). When specifically examining the use of weight loss drugs, around 6% of women and 1% of men had used diet pills. Another study found that those who were overweight were more likely to engage in unhealthy weight control behaviours such as diet pills than those who were of a normal weight (Boutelle et al. 2002). Blanck et al. (2001) found that eleven percent of women and three percent of men (population based sample in America aged 18 years or older) had used non-prescription weight loss products between 1996 and 1998. In both men and women the largest proportion were aged between 18 and 34 years of age and overall overweight (13%) and obese (16%) women showed the highest prevalence of weight loss product use.

#### 2.4.1 Prescription weight loss drugs

Currently, in the United Kingdom (UK), orlistat is the only licensed weight loss drug available and is obtained through prescription, or at a lower dosage (under the name Alli) over the counter. Orlistat can be prescribed to somebody with a Body Mass Index (BMI) of 28 (with a weight related condition) or a BMI of 30 (NHS UK 2016) and works by preventing the body from absorbing fat from food. Between 2006 and 2011, prescriptions for anti-

obesity drugs were high, peaking in 2009 with 1,453,682 prescriptions (NHS Digital 2017a). In 2011, the number of prescriptions began to reduce, due to orlistat at that point being the only anti-obesity drug on the market following the withdrawal of sibutramine and rimonabant and due to supply shortages of orlistat in 2011/12 (Baker 2017). Whilst there was an increase in 2013, from then on, the number of orlistat prescriptions has reduced (from 563,399 in 2013 to 449,542 in 2016). Despite this the number of people who are overweight or obese is still increasing (Baker 2017) and whilst orlistat is currently licensed for prescription within the UK it can also be easily purchased online, with or without a prescription and costing approximately £22 for 42 capsules (equal to a two week supply).

#### 2.4.2 Herbal weight loss products

There also are many 'natural' or 'herbal' weight loss products sold online designed to aid weight loss. The popularity of these tend to fluctuate with products going in and out of favour. Searches across online discussion forums suggests that caffeine, raspberry ketone supplements and green tea extracts appear to be those most often considered. As with orlistat, these products are easily available to purchase online and often advertised using straplines such as 'miracle fat burners' or 'safe natural weight loss supplements'. Whilst there is no evidence for the efficacy and safety of herbal products, one risk of purchasing any medicine online is whether the product is authentic and is not substituted for something else, contaminated or adulterated. For example, there have been many reported cases where herbal products have been found to be contaminated with other substances. One such case was the sale and use of Herbal Xenicol (diet supplement sold as a 'fat blocker') which resulted in a patient being hospitalised. This product was later tested and found to be adulterated with the UWL drug sibutramine (Medicines and Healthcare Products Regulatory Agency 2011)

#### 2.4.3 Prescription drugs with a different purpose

Another group of drugs exist which have the potential to cause weight loss but this is secondary to their licensed purpose. Levothyroxine sodium (T4) and liothyronine (T3) are synthetic thyroid hormones used for the treatment of hypothyroidism. Historically, products containing thyroid extracts such as Marmola, which can mimic the weight loss seen with hyperthyroidism have been marketed as weight loss drugs (Evans-Brown et al. 2012). Both T3 and T4 are sold online as 'cutting agents' and 'metabolic regulators'.

Levothroid (a market name for T4) is available to purchase from a number of websites without prescription, from as little as 40 pence per tablet. Human chorionic gonadotropin (HCG), a hormone used to enhance fertility (Filicori et al. 2005) has also been found to have an impact on weight loss by diminishing and changing fat distribution (Yen and Ewald 2012). Although HCG is not licensed as a weight loss drug, it can be purchased online as drops, tablets or injections. Similarly, Clenbuterol and Ephedrine, are both licensed for the treatment of asthma. However, Clenbuterol has been shown to enhance lipolysis, glycolytic capacity, and minimise protein degradation in both animal and human studies, making it attractive to those seeking simultaneous fat loss and muscle retention (Spiller et al. 2013). Ephedrine, can reduce appetite, promoting the burning of calories and targets fat while saving lean muscle (Hall et al. 2015). Both Clenbuterol, which is controlled under the Misuse of Drugs Act and Ephedrine can be purchased online without a prescription and at a relatively low cost.

## 2.5 Unlicensed weight loss drugs

*“An illicit market has developed selling a range of potent weight loss drugs.” (Evans-Brown et al. 2012 p.81 )*

The final group of weight loss drugs and the focus of this research are those which are unlicensed or banned. There are other drugs which are also unlicensed that can be used for weight loss such as Melanotan II (Van Hout 2014b, Langan et al. 2010). However, here weight loss is most likely the secondary effect of the drug, with tanning and increased libido most likely being the primary reason for using and effect. Drugs of this nature were not included as the focus of this research is to explore drugs used primarily for weight loss and it would be unclear for drugs such as Melanotan II what the primary motivation for use was. Therefore, the main drugs and the focus of this research are 2,4-dinitrophenol (DNP), sibutramine and rimonabant.

### 2.5.1 2,4-dinitrophenol (DNP)

DNP was first used in the early 1900s. It is a manufactured odourless yellow chemical and one of its first uses was in France during World War 1 in the munitions industry (Grundlingh et al. 2011, Phillips and Singer 2013, Petroczi et al. 2015). DNP is a fungicide, preservative and insecticide used in making dyes, wool preservatives, explosives and in photographic development (Politi et al. 2007, McVeigh et al. 2016). During the 1930s, after French

workers exposed to DNP were found to have lost weight, it was established that consumption of DNP did lead to weight loss. Despite, acute toxicity reported in munition workers and deaths in those working in the dye industry (Tainter et al. 1935), a Stanford University research group reported that DNP stimulated human metabolism and DNP became available to the general public with an estimated 100,000 people taking it as a weight loss agent between 1933 and 1934 (Margo and Harman 2014). During this time, DNP was readily available and sold over the counter without a prescription (Cutting et al. 1933, Tainter et al. 1935, Grundlingh et al. 2011, Yen and Ewald 2012). Adverts at the time were often targeted at women and played into their insecurities with straplines and testimonials such as *“You can have the slender figure of youth”* and *“here at last is a reducing remedy that will bring you a figure men admire and women envy without danger to your health”* (Evans-Brown et al. 2012 p.27).

DNP works by increasing metabolism through inhibiting the mitochondria from making adenosine triphosphate (ATP), which results in heat being produced instead of ATP. This thermogenesis and subsequent fat burning leads to weight loss (McFee et al. 2004, McVeigh et al. 2016). Across bodybuilding communities, DNP is recognised as an extremely effective drug for weight loss (Llewellyn 2012, Duchaine 1989). However, DNP has a narrow therapeutic range, meaning that there are little differences between toxic and therapeutic doses. The side effects associated with DNP include hyperthermia, tachycardia, cardiac arrest and coma amongst others (Petroczi et al. 2015). The combination of these side effects can result in death (Yen and Ewald 2012). Due to the identification of harms associated with DNP use, in particular multiple cases of cataracts and linked deaths (Yen and Ewald 2012), DNP was banned in 1938 by the Food and Drug Administration (FDA).

Between 1916 and 2010, there were 62 reported deaths from DNP in the medical literature. Between 1916 and 1919, there were 38 reported deaths following exposure in an occupational setting within France. From 1933, when DNP became available as a weight loss agent up until its ban in 1938, there were eight reported fatalities. These deaths (6 female and 2 male) were all attributed to people using DNP for weight loss. Between 1936 and 2002, there were only two reported deaths following DNP exposure, one reported as

accidental and one as an overdose. However, from 2002 to 2010 there were 12 reported deaths (five female and seven male), with seven of these deaths linked to people using for weight loss or to assist in bodybuilding (Grundlingh et al. 2011). Data from the Office for National Statistics (2017), which looked at instances where DNP was mentioned on a death certificate (In England and Wales between 2007 and 2016), identified 15 deaths linked to DNP, with 13 of these being post 2012. Deaths following the use of DNP have also been frequently reported in the media. Probably one of the most highly reported and discussed of these deaths, was Eloise Parry, a young woman aged 21, who died in 2015 after reportedly taking eight times the recommended dose of DNP (BBC News 2015) contained in tablets she had purchased online. Deaths have also been reported in bodybuilders, sports competitors, extreme dieters and those suffering with an eating disorder (McVeigh et al. 2016, Sawyer and Mendick 2013, Brooke 2013, BBC 2012, Matharu 2014).

DNP is widely available to purchase through online methods, particularly within the body building communities and is often marketed as a safe weight loss drug (Grundlingh et al. 2011). However, DNP is a metabolic poison and illegal to sell as a fat burner within the UK. Despite this, with the market place being predominately online this makes it very difficult to regulate due to anonymity and the ease of moving online markets from one website to another (Petroczi et al. 2015). Whilst little is known about the prevalence of DNP use, the increase in the number of DNP related fatalities plus a surge in online discussion relating to this drug suggests that its use is rising.

#### 2.5.2 Rimonabant

Rimonabant (brand name Acomplia®) is an appetite suppressant developed to treat obesity that works by blocking cannabinoids (Padwal and Majumdar 2007, Halford 2006). Early trials of rimonabant found that it was more effective than a placebo for all weight related outcomes including blood pressure, levels of cholesterol and weight, and was found to be more effective than both sibutramine and orlistat (Burch et al. 2009). It was also found to reduce food intake and hunger in obese people over a 7 day period and during trials it was considered to have potential in greater and longer lasting weight loss than previous anti-obesity medicines (Halford 2006). At this point, rimonabant was thought to have few safety concerns with the Rimonabant in Obesity (RIO) Europe study concluding that rimonabant was well tolerated with minimal side effects (Christensen et



al. 2007). As such, rimonabant was authorised for use by the European Agency for the Evaluation of Medicinal Products (EMA) in June 2006 throughout the European Union (EU) (Christensen et al. 2007) and made available across 56 countries (Kang and Park 2012). Rimonabant was licensed as an anti-obesity drug in the UK for use in patients with a BMI greater than 30, or greater than 27 with an associated risk factor such as type II diabetes (Wathion 2009).

However separate individual trials found that rimonabant increased levels of depression with a meta-analysis of randomised controlled trials examining the safety of rimonabant (Christensen et al. (2007). This meta analysis found that whilst those taking rimonabant did experience a greater weight loss than those who were taking a placebo, a range of harms were identified. For patients who were taking 20mg a day of rimonabant, there was an increased risk of psychiatric adverse events, namely depressive mood disorders and anxiety. A separate report conducted by the FDA echoed these findings and in fact argued that Christensen et al. (2007) may have underestimated the level of psychiatric complications attributed to rimonabant (Mitchell and Morris 2007). The FDA study found that 26% of patients who took rimonabant had an adverse psychiatric event and additionally found evidence that rimonabant was linked to an increased risk of suicide attempts. At least two deaths from suicides were reported in patients who had been taking rimonabant (Sam et al. 2011, Astrup et al.). Due to these findings rimonabant was withdrawn from the European Market in 2009 (Kang and Park 2012).

Despite being withdrawn in Europe, and never approved elsewhere, rimonabant can be purchased online. It is usually marketed under the brand name of Acomplia® and often advertised as a drug both for weight loss and for smoking cessation. One website states that whilst rimonabant can have side effects such as depression and anxiety, these are most often temporary. It should be noted, however, that whilst it is still possible to purchase rimonabant online many websites that did offer it have now been closed. It is not clear whether websites were forcibly closed, however it does seem that new websites are created to take the place of old ones.

### 2.5.3 Sibutramine

Sibutramine (brand name Meridia®) is an appetite suppressant, originally developed as an antidepressant but later found to increase satiety (Padwal and Majumdar 2007) and

stimulate thermogenesis (Arterburn et al. 2004). As such, sibutramine was approved as an anti-obesity drug by the European Union in 1999. The efficacy of sibutramine for weight loss in both the short and long term (up to 2 years) was identified (Nisoli and Carruba 2003) with an optimal dose of between 10 and 15 mg per day established. Approximately 69% of patients receiving sibutramine were found to have achieved a 5% or greater reduction from their baseline weight (Lean 1997). From three randomised double blind, placebo-controlled weight loss trials of one year, sibutramine was found to on average reduce weight by 4.6% in overweight and obese patients (Padwal and Majumdar 2007).

Early identified side effects from sibutramine included headaches, dizziness, dry mouth, nausea, insomnia and constipation (Nisoli and Carruba 2003). Concerns were also raised about the potential for sibutramine in increasing blood pressure and heart rate and about the link between sibutramine and cardiovascular toxic effects. In 2002, sibutramine was temporarily suspended in Italy following reports of tachycardia, hypertension and arrhythmias with sibutramine being linked to two deaths (Padwal and Majumdar 2007). At this point sibutramine was reinstated with the condition it was not to be used by patients with a history of cardiovascular disease (James et al. 2010). The Sibutramine Cardiovascular Outcomes Trial (SCOUT) was set up to assess the long-term effects of sibutramine on cardiovascular events and death in overweight and obese participants who already had pre-existing cardiovascular disease (Caterson et al. 2012). The SCOUT trial was conducted in 13 countries across Europe, Central America, South America and Australia between 2003 and 2009 with around 10,000 participants taking part (Caterson et al. 2012). The SCOUT trial found that patients who had pre-existing cardiovascular disease and were on a long term treatment of sibutramine (10-15 mg per day for five years) were significantly more at risk of non-fatal myocardial infarction and strokes, although there was no significant risk of cardiovascular death (Scheen 2011). The EMEA decided that the benefits of weight loss did not outweigh the risks and sibutramine was withdrawn in Europe (and later in America) due to safety concerns in 2010 (Williams 2010).

Despite sibutramine being withdrawn from the market, it is still available to purchase online often under a variety of brand names including Reductil, Meridia and Sibutrex. Sibutramine can be purchased online at a cost of approximately £50 per month's supply. Additionally there have also been concerns about the adulteration in so called 'herbal' or

‘natural’ weight loss supplements (Chen et al. 2010), with the addition of sibutramine being detected in many slimming products (Mathon et al. 2014).

#### 2.5.4 Why these drugs?

The decision to focus on these three drugs was primarily due to their unlicensed status. Being unlicensed, they are unregulated and particularly for DNP, where there have been no clinical trials testing its efficacy, the evidence concerning impact and risks of use are unknown. Furthermore, consumers of these drugs are doing so without any input or support from health care professionals. This means there is far less protection from effects caused by drug interactions or drug related adverse effects, for example in those taking more than one serotonergic agent (Thanacoody 2016, Goudarzi et al. 2016), such as both sibutramine and selective serotonin reuptake inhibitors (SSRIs). This can lead to increased serotonin levels within the central nervous system causing mild to severe toxicity and side effects such as muscular spasms, elevated body temperature, increased heart rate, agitation and confusion (Buckley et al. 2014). Due to the unlicensed status, access to these drugs from potentially illicit markets provide no guarantees for accuracy of information given, the quality of drugs supplied, potential for online scamming or contaminated drugs (Koenraadt and van de Ven 2017). This presents a risk of harm due to a lack of regulation and safeguarding in those using them.

Whilst the focus of this research is UK based, enhancement drug use is not confined to this geography. For other drug use, prevalence varies worldwide, for example 41.9% those residing in New Zealand had ever used cannabis as opposed to only 6.6% and 1.5% of those residing in Italy and Japan respectively. Similarly, drugs in different cultures may be favoured over others, for example methamphetamine use in Japan is high but other drugs which are more widespread elsewhere have a low prevalence (Kanayama et al. 2012). Enhancement drug use prevalence rates amongst gym users has been found to range between 0.4% to 35% (Ainsworth et al. 2018). The majority of research which has looked at enhancement drug use prevalence has focused upon anabolic androgenic steroids (AAS). Whilst AAS drug use was initially seen as a Western trend, driven by Western attitudes towards muscularity (Kanayama et al. 2012), research looking at global prevalence found highest rates in the Middle East and South America with an overall global lifetime prevalence rate of 3.3% (Sagoe et al. 2014). The authors of this research declare

AAS use as being a widespread and serious public health problem and these findings suggest it global and cross-cultural. Whilst there are not equivalent prevalence rates for UWL drug use, unpublished analysis of the Global Drug Survey 2015, found that 5% of women (n=1,934; N=36,502) had ever used a weight loss drug<sup>6</sup>. The largest majority were of White ethnicity (1,684; 87%) and 38% (737) resided in Germany. One in five was from Brazil (396; 21%), 126 (7%) from the United States and 90 (5%) from the United Kingdom. Whilst the numbers using these drugs are small, these findings do suggest that UWL drug use is not limited to the UK. Research which posed the hypothetical scenario 'what if DNP was a licensed pharmaceutical drug' to participants identified that young women aged between 18 and 25 years of age showed the least concerns for legality, were most interested in losing weight and were at a higher risk for disordered eating. The authors concluded the increasing body image concerns in these groups coupled with a lack of concern for legality meant that young women were at risk of becoming vulnerable to using weight loss products such as DNP (Bleasdale et al. 2018). Whilst identifying global prevalence of UWL drugs is at present problematic with users reluctant to admit to use (Ainsworth et al. 2018), there is also a paucity of studies, which explore the experiences of UWL drug users and patterns of use.

#### 2.5.5 Harm reduction

The term harm reduction was coined in 1987 and whilst often overshadowed in the UK by a focus on recovery and treatment, harm reduction aims to reduce the negative consequences, associated with a potentially harmful behaviour such as the use of drugs (Stimson 2016). Some harm reduction strategies aim to provide those using with safer ways of using, e.g. by providing clean needles whilst others promote alternatives which are regarded as safer such as using methadone as a substitute to heroin. Other harm reduction strategies look at creating spaces which aim to facilitate the safer use of substances (Hardon and Hymans 2016) and online spaces with caring and sharing communities have been found to be pivotal in the dissemination of harm reduction information (Van Schipstal et al. 2016). Harm reduction strategies specifically for UWL drug use has not been well considered and research which does exist has thus far only focused on DNP (Ainsworth et al. 2018). However, it is possible to also draw from strategies

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<sup>6</sup> Ephedrine, DNP, Sibutramine, Clenbuterol, Rimonabant, T3 and T4

employed in other enhancement drug use. In particular, previous research has identified that strategies designed to 'scare' users away from the use of anabolic steroids has limited effect (Petróczi et al. 2014). Similarly, for this group there is a reluctance to seek advice from health care professionals due to users of steroids often considering themselves to be more knowledgeable about the drugs (Pope et al. 2004). For steroid users there have been recommendations that strategies should focus on reducing harm from using drugs rather than trying to encourage users to stop using drugs and this has approach has also been suggested for experienced DNP users (Ainsworth et al. 2018). Online communities have been identified as places ideal for the dissemination of harm reduction strategies (Davey et al. 2012), particularly in those communities which have a strong identity and sense of community. It has also been argued that harm does not have to be a consequence of using drug and the networks the user engages with can shape the impact of using drugs (Van Schipstal et al. 2016). Furthermore, for those who view themselves as being knowledgeable about drugs such as DNP and where peer experiences are considered valuable the inclusion of online groups in discussions concerning policy creation and harm reduction strategies could be empowering for those users (Ainsworth et al. 2018). Harm reduction from below, i.e. that which comes from peers and is often evident within online drug communities has been seen as a valuable strategy in minimising potential risks and harms and it has been argued that those working at a policy level could learn from these communities (Van Schipstal et al. 2016). However, it is unclear thus far from previous research exactly what harm reduction strategies should look like and whether they would need to be different for novice and experienced DNP users. Additionally, there has been no research that has looked at those using rimonabant and sibutramine and whether parallels can be drawn across all UWL drug users. Finally, for online communities, whilst they can be effective in the sharing of harm reduction information consideration also needs to be given to who the peers are and whether information shared is incorrect or harmful in any way (Boothroyd and Lewis 2016).

#### 2.5.6 Online drugs market and associated risks

The globalised and networked world we live in now makes the accessibility and availability of drugs including weight loss drugs, as well as other lifestyle and recreational drugs,

extremely easy. The use of the internet to purchase drugs, in particular also appears to be increasing (European Monitoring Centre for Drugs and Drug Addiction 2017). A survey conducted with people worldwide investigated the number of people purchasing any drugs online and the types of drugs which were purchased (Winstock 2015). In this Global Drug Survey (GDS), 22% of UK respondents reported that they had bought drugs online. This included licensed drugs purchased with or without a prescription, unlicensed, banned and illegal drugs. Due to the difficulties of placing legal restrictions on those selling or purchasing weight loss drugs online, the internet does appear pivotal in the circumvention of medicinal regulation, and the supplying of drugs (Evans-Brown et al., 2012).

Lifestyle drugs, which include weight loss drugs are readily available to purchase online. Online searches for UWL drugs demonstrate the high level of availability with Google.co.uk searches for 'Buy DNP online' producing close to 5 million results. It is important to note, however that during the span of this research many online websites and shops, which previously sold UWL drugs no longer exist or no longer advocate the use of UWL drugs. However, it is still possible to purchase these drugs, often from websites seemingly based outside of the UK and for as little as £1.60 per capsule for DNP, £1 per capsule for sibutramine and £1.30 for rimonabant.

Research conducted in the Netherlands explored online purchasing of 'lifestyle drugs', namely weight loss drugs, sexual enhancers, birth control, smoking cessation drugs and muscle building drugs (Koenraadt and van de Ven 2017). This study asked over 50,000 people about medicines they had purchased online. From this, it was estimated that 10.2% of the Dutch population had purchased drugs online and 1.6% had purchased illicit drugs online. Weight loss drugs were the second most popular drug group purchased (primarily sibutramine or orlistat without a prescription), accounting for 27% of drugs bought online. Whilst overall, men purchased illicit medicines online significantly more than women, this was reversed for weight loss drugs (61.3% female), the only group of drugs where this was the case.

Whilst there is little evidence for the risks associated with using UWL drugs purchased online, research is available which has examined the risks of buying any drug online. When buying drugs online the consumer has no real guarantee that what they are purchasing is what they believe it to be. Even for those who believe they are purchasing 'natural' or

'herbal' products, this may not always be the case. For example, harms caused from using herbal weight loss drugs which were later found to have been adulterated with the potent drug n-nitrosofenfluramine have included liver damage and death (Evans-Brown et al., 2012). Drugs may be missing the correct instructions for use or without the correct equipment, e.g. needles and sterile water missing from a synthetic tanning order (Van Hout and Brennan 2014). This may increase the risk of users sharing injecting equipment and the lack of proper sterilisation can cause localised infections (Evans-Brown et al., 2012). Furthermore, drugs sold online may not always have the correct labelling and information on how to use them safely and effectively (Evans-Brown et al., 2012). There are also risks of purchasing counterfeit products, made in illegal laboratories which are not subject to any quality control or safety assessment (Rocha et al. 2016).

There is limited knowledge about those who use weight loss drugs and scholarly articles discussing this are limited. Those papers which do exist and discuss experiences of using weight loss drugs tend to be for DNP and focus on bodybuilders or single case studies (Chan et al. 2013, Petroczi et al. 2015, McFee et al. 2004, McVeigh et al. 2016) and for sibutramine and rimonabant only focus on efficacy of the drugs prior to regulatory controls.

There is likely to be a reluctance for users of these drugs to admit to using them. Whilst Orbach (2009) discusses the rise of physical enhancement and reshaping of bodies and suggests that this has become normalised within today's society, not all human enhancement is considered normal or acceptable. For example, extreme body modification, such as tongue splitting is seen by many as deviant behaviour (Lingel and boyd 2013). For image and performance enhancement drug injectors (mainly AAS and melanotan II users), the illicit nature of using these drugs as well as the widely circulated argument that steroids increase levels of aggression contributes to use being hidden and secretive (Hope et al. 2013, van de Ven 2016, Bunsell 2013). Bodybuilders tend to hide their drug use and for women, the use of steroids is seen as doubly deviant due to steroids being deemed unfeminine and the commonly held belief that muscular women are unattractive (Bunsell 2013). With regards to weight, more generally there is a stigma attached to being overweight with feelings of failure and guilt when not losing weight or achieving lifestyle changes (Grønning and Tjora 2016). Furthermore, the use of products

to assist with losing weight may be seen as the quick fix and lazy option, for example research has found that those who lose weight through the use of diet pills were viewed less favourably than those who lost weight through either diet and exercise or bariatric surgery (Carels et al. 2015). For DNP in particular, the high risk associated with use as well as severe side effects may contribute to users not wanting to admit to use. Petróczi et al. (2015) likened this to traditional drug use where users are more likely to admit to using relatively harmless substances such as marijuana but less likely to confess to a 'harder' drugs such as heroin.

Whilst users may be reluctant to discuss UWL drug use, experiences of using these drugs are plentiful within online communities, most likely due to the perceived anonymity these communities offer. The next section of the literature review will explore the rise in online research as well as the role of online communities in exploring UWL drug discussion.

## 2.6 Online communities

*"The Internet is increasingly taking the form of a laboratory for the social sciences, in much the same way as astronomers might use a virtual observatory to understand the mysteries of the night sky."* (Eynon et al. 2008 p.7)

Close to two decades ago, Lyman and Wakeford (1999) argued that research involving digital and networked technologies was the fastest expanding field within social sciences. Given the rise in social media and online communities, this statement is now even more applicable. Eynon et al. (2008) describes the internet as the laboratory for the social sciences. Kozinets argues that "online access to vast amounts of archived social interactions alongside live access to the human beings posting it (has) entirely changed the practice of ethnography and, in fact all of the social sciences" (Kozinets 2015 p.4). The internet is one of the most prominent fixtures in modern life. We live in a technological society and a vast amount of our time is spent online. Whereas once our social identities and networks were solely constructed within the context of our 'real life' physical settings, this is no longer the case. The online world should be considered as another social space (Donath and Boyd 2004) just like our physical spaces. Humans' social identities go beyond that of physical interactions and encounters and our online presence and online profiles make up just as much of who we are. So much of what we do in our 'real world' lives can



also be done online; through the internet we can purchase goods, engage in social interactions and source information. Worldwide, there are over three billion users of the internet, which represents approximately 40% of the global population (Conrad et al. 2016). Within the United Kingdom (UK), 89% of households have access to the internet with 82% of adults using the internet on a daily or almost daily basis and 63% having a social media account (Office for National Statistics 2016). There is now a blending of our online and offline lives with our online aspects becoming just as much part of our 'real world' as our offline aspects.

Online forums represent one way that people communicate and seek information online, and although somewhat eclipsed by social media, forums are still used by approximately 10% of internet users in the UK (Pendry and Salvatore 2015). It is unclear exactly how many online forums currently exist but what is obvious is that they exist for all manner of purposes. Over recent years, there has been a rise in researcher interest in understanding online communities as well a proliferation of research methodologies, computer assisted scraping and crawling tools, and ethical protocols. Specifically, within the context of health, online forums are used in research to help tease out the perceptions, beliefs, motivations, knowledge and decision making processes concerning issues such as drug use (Norman et al. 2014, Van Hout 2014a, Mitchell et al. 2016), health conditions (Hilliard et al. 2015, Bender et al. 2013) and mental health (Moore et al. 2016) amongst many others.

Online forums are an extremely useful tool for researchers who are researching sensitive or illicit behaviour particularly where there is a fear of judgement in the offline world, have undefined populations or hard to reach groups (Barratt and Lenton 2010, Germain et al. 2017). Additionally the use of the internet to seek weight loss advice is relatively high. A survey carried out in America found that 39% of women aged between 16 and 24 years of age had used the Internet to seek weight loss advice and 7% had used diet pills (although it did not state where the diet pills had been purchased); those who had used the Internet to seek weight loss advice were significantly more likely to have used diet pills (Laz and Berenson).

Research has also identified the role of online communities in sharing advice and harm reduction around drug practices. Discussion concerning drug safety, side effects, dosage, user experiences and support for the use of novel psychoactive substances has been found

on online forums (Soussan and Kjellgren 2014) and suggestions made for drug prevention or sharing of evidence designed to reduce harms being part of online forums to also be considered (Davey et al. 2012). This may be particularly effective in communities which have a “strong sense of shared experience” (Davey et al. 2012 p.390) whereby members are close knit, unified and have a commitment to protect the community they are in. Social identity theory (Tajfel and Turner 1979) highlights the importance of membership within a community and specifies in which cases members may become in-group or out-group members. Those who are in-group members are those whose beliefs, attitudes and opinions align with others in the group, with those not conforming considered to be out-group members, with in-group members being more influential on others in the group (Farrow et al. 2016). Strength of identity within a group has been shown to influence behaviours such as smoking, drinking and drug use as well as influencing harm reduction and health promotion behaviours (Hynes and Zinkiewicz 2007). Previous research exploring IPED discussion (predominately steroids) in online forums has already found strong identities within these groups as well as advice shared concerning harm reduction with online peers experiences viewed as valuable and highly sought after (Tighe et al. 2017). This research suggested that in-group members or high ranking peers within these online communities may act as a link between health care professional and those using IPEDs in providing advice on harm reduction. Whilst it is not at present clear, whether UWL drug users have the same shared identity as other drug group users, this is an important factor in identifying how best to share advice and information with this group. Online research can provide researchers with what people are discussing but it can also explore the hows, whys and whos. How are people sharing best advice, why are they using online forums to do so and who is best placed to give advice? This is important, particularly for a group such as UWL drug users, where little is known their attitudes and perceptions, not only towards UWL drugs but also towards the online communities they frequent, the advice they are given and the role of online forums play in providing advice on harm reduction.

This doctoral research explores the use of unlicensed weight loss (UWL) drugs in women. Due to the illicit nature of UWL drug use, its use may be hidden and likely to be amongst a group of users who are not traditionally in contact with health care professionals around

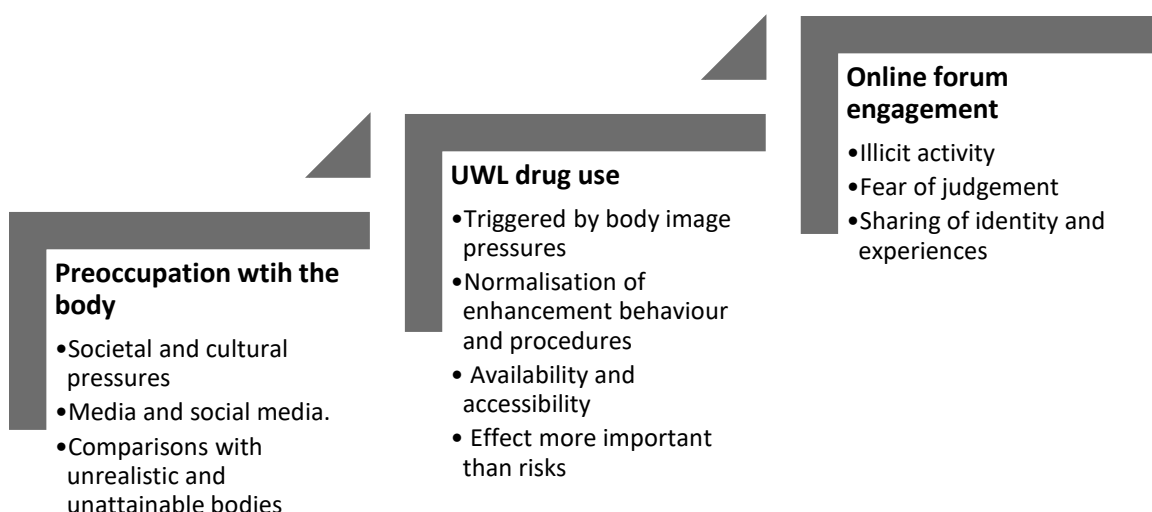
their weight loss drug use. In addition, it may be that as UWL drug users do not identify themselves as drug users they may be less likely to access a health care service for treatment. What is known however, is that people often purchase their UWL drugs online and also that online discussion relating to the use of UWL drugs are prevalent across a range of websites. Thus, online forums present a natural opportunity to find out more about UWL drug use and the people who use them. As an emerging research area with relatively little literature it is not yet wholly clear what some of the key issues around UWL drug use are and by looking at existing online discussions relating to UWL drug use this doctoral work allows for identification of some of those key areas, e.g. who are using weight loss drugs, why are they using, why have they stopped and what are people's perceptions and attitudes towards weight loss in general.

## 2.7 Conceptual framework

Whilst little is known about the reasons women use UWL drugs, a conceptual framework (Figure 1) has been developed. This explores some of the reasons why women may have a preoccupation with their body as well as motivations that may influence women in engaging in risky behaviours in order to have the physique they desire. However, it is expected that this may vary depending on which drugs are being used and for which purpose, e.g. overweight and wanting to be thin compared with bodybuilder preparing for a competition. This framework also takes into account motivations for engaging with online communities and proposes a sequential relationship, whereby women have pressures on them to be thin with one outcome potentially being UWL drug use. Due to the illicit status of UWL drugs, and the hidden nature of this drug use, it appears that women are using online forums to discuss their experiences and receive advice. However, it should be noted that this study is exploratory and will be guided by the research findings as they arise. In particular stage 1, the online forum analysis, a large scoping exercise of online discussion assessing the content of UWL drug discussion and this will inform the remainder of the research. Therefore, this framework is a guide and not a rigid framework. However, from the literature it is clear that body preoccupation exists as well as the intense and inescapable pressures placed upon women in order to meet ideal body expectations. Secondly, the literature has identified a normalisation of body and face enhancement with high levels of invasive and non-invasive cosmetic procedures coupled

with the rise in interest of all human enhancement drugs. Finally, the rise of online research methods and the identification of this particular method when researching hidden or illicit behaviours is pivotal for this research and key to gaining an understanding of UWL drug use in women.

*Figure 2. Framework of UWL drug use*



## 2.8 Chapter summary

In this chapter, literature has been presented identifying the growing pressures placed upon women to look a certain way as well the methods currently being employed to achieve that look and the normalisation and acceptance of those methods, including the use of enhancement drugs. Finally, the reasons why women may be engaging with online forums to discuss UWL drugs has been considered as well as the role online communities play in the sharing of experiences and advice. This literature review highlights the under researched nature of UWL drug use as well as offering some insights into the societal and cultural pressures impacting on women which may be contributing to their use of UWL drugs. The next chapter discusses the methodology for each of the three studies within the research.

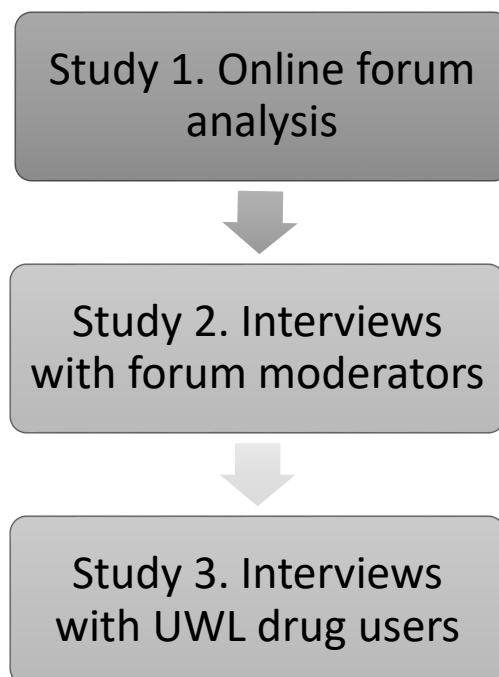
## Chapter 3. Methodology and Research Design

This chapter gives an overview of the methods used in this research. Specifically, qualitative research, netnography, online recruitment, data collection methods and limitation of the study are discussed.

### 3.1 Aims and objectives

The aim of this doctoral research is to identify and characterise the emerging issue of the use of unlicensed weight loss (UWL) drugs in women. Specifically, this research aims to identify attitudes and perceptions of those who are using UWL drugs and the underlying decision-making processes, which occur when choosing to take harmful substances. This research is divided into three distinct studies - study 1) an online forum analysis; study 2) interview with the forum moderators; and study 3) interviews with female UWL drug users (Figure 2).

*Figure 3. Order of research studies*



The overarching objectives for this doctoral research aimed:

- 1) To identify attitudes and perceptions of UWL drug use;
- 2) To identify the self-reported risks of using UWL drugs ;

- 3) To identify the reasons and motivations behind why UWL drug users begin to use UWL drugs and the associated trigger points;
- 4) To assess the role of online forums in health promotion and sharing of harm reduction information.

### 3.2 Theoretical framework

Before commencing research, it is essential to consider and establish a theoretical framework, as a framework will assist in informing both research methods used and types of data collected. A paradigm, or worldview, as termed by Creswell (2013) can be defined as “a basic set of beliefs that guide action” (p.35). A paradigm is a researcher’s belief about how a problem should be understood and addressed, essentially how reality can be viewed via research.

Within a paradigm, researchers need to consider both their ontological stance, ‘what is reality or truth’, and their epistemological stance, ‘how can we understand and know that reality or truth’. This research initially started out as mixed method research using a Quan → QUAL sequential explanatory design. The quantitative element, involved analysis of the Global Drug Survey (GDS) in order to set baseline characteristics of female UWL drug users followed by a qualitative analysis of online forum analysis and interviews to gain a deeper understanding of women’s motivations and experiences of using UWL drugs. This combination of methods meant at that point the research fell outside of both the positivist paradigm, which demands complete objective, scientific, deductive research and also the constructivist paradigm where the focus is solely on inductive, subjective research (Bloomberg and Volpe 2016). For mixed method research, a pragmatist paradigm is often the most appropriate. A pragmatic approach is used when both quantitative and qualitative methods are needed to fully understand an issue and that methods can be combined creatively in order to fully understand and address research questions (Bloomberg and Volpe 2016). However, following analysis of the GDS it was apparent that the data was not contributing unique findings and did not merit inclusion in the research<sup>7</sup>, therefore the research became a qualitative study. Despite this, pragmatism argues for a ‘what works’ approach and instead of focusing upon the methods, the research should focus upon the research problem and use appropriate methods to help understand the

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<sup>7</sup> A small section was added to the literature review

problem (Creswell 2013). Researchers following a pragmatic approach are not tied to one philosophy and due to this are not tied to one methodology. Instead pragmatism advocates using a variety of methods which work together to best understand a research problem (Creswell 2013). In order to answer the research questions in this research and given that the quantitative stage did not elicit any novel or detailed findings, a qualitative multi method approach was deemed most suitable in answering the research questions. Therefore, this research still follows a pragmatic paradigm.

### 3.3 Study 1. Online forum analysis

This study aimed to build upon information gathered in stage 1 and addressed aim 1 *'To identify attitudes and perceptions of UWL drug use'*, aims 2 *'To identify the self-reported risks of using UWL drugs'* and aim 3, *'To identify the reasons and motivations behind why UWL drug users begin to use UWL drugs and the associated trigger points'*.

#### 3.3.1 Netnographic approach

Netnography is described by Kozinets as "ethnography on the Internet, a new qualitative research methodology that adapts ethnographic research techniques to study the cultures and communities that are emerging through computer-mediated communications" (Kozinets 2002 p.62). Originating in market research, netnography was part of a movement aiming to gain 'thick descriptions' of consumers experiences, attitudes, beliefs, perceptions and feelings (Langer et al. 2005). Netnography can be considered less time-consuming, less obtrusive and also a more cost effective option than other research methods. Beyond this though, netnography can be used for sensitive research topics such as illicit drug use and for research topics where access to participants is difficult (Langer et al. 2005) making it an optimal method for this study. Kozinets (2002) p.63-66 recommends the following stages for use in a netnographic study:

- 1) Entrée – Research question formulation. Also of importance is identifying relevant forums and learning about the forums and its members.
- 2) Data collection – Including both data taken directly from forums and also researcher observations of the forum including its members, interactions and meanings
- 3) Interpretation – Following conventional methods of analysis, classifying and coding data, analysis and contextualisation.

- 4) Ensuring Ethical Standards – Particular emphasis given to importance of researcher disclosure, confidentiality and anonymity, feedback from online community and awareness of private versus public spaces.
- 5) Member checks – Presenting research findings to participants for their comments.

This chapter describes steps taken during Kozinets recommended methodology. Whilst this study has incorporated elements of ‘true’ netnography as described by Kozinets, there are some deviations which will be discussed.

### 3.3.2 Entrée – Forming the research questions

The aim of this research is to explore the use of unlicensed weight loss (UWL) drugs in women. This work will contribute to formulating an appropriate public health response supporting people in making healthier lifestyle choices.

#### *Entrée – Forum selection*

This section describes the steps taken in deciding which forums were selected for inclusion. Whilst online forum analysis is increasing in popularity, often researchers do not thoroughly describe the processes involved in selecting forums used in analysis. However, this is an important part of the process and this section describes in detail how forums were selected. In netnography, Kozinets (2002) describes how assessing the aims of a forum, the level of traffic to a forum, number of users and richness of data is essential prior to data collection. Without thorough steps being taken to ensure that the most relevant and appropriate online communities are being accessed, then there is no way of knowing whether the forums a researcher is analysing are the most suitable. Parallels can be drawn between conducting a systematic review and carrying out an online forum analysis. In the same way a systematic review is used to draw out only the most reliable and useful research and evidence, a systematic process within online research can also be employed to select only the most relevant and useful online communities. As in a systematic review, key stages for selecting online forums include deciding upon search terms, appraising the quality and relevance of the sources and using inclusion and exclusion criteria.

#### *Stage 1. Searching for and identifying forums*

The first stage of the forum analysis involved carrying out specific key term searches on Google.co.uk search engine. The search terms used are presented in Table 2. The search terms were chosen to include both the generic (e.g. sibutramine) and trade (e.g. Slimex)



names of each drug of interest as described in Evans-Brown et al. (2012). Additional trade names were also discovered throughout the searching process (e.g. Sibutrex). Searches were also carried out for 'weight loss drugs' and 'weight loss pills' as, although the focus of this research is on DNP, sibutramine and rimonabant, it may be that other unlicensed weight loss drugs are also being used or the drugs of interest are not explicitly named within forum posts. In addition, these searches may also pick up on additional trade names of the three main drugs. The number of Google results from each search was recorded with 'DNP forum' and 'weight loss pills forum' producing the largest number of results.

*Table 2. Google search terms<sup>8</sup>*

Drug	Search term	Google results
DNP	DNP forum	1,270,000
DNP	Dinitrophenol forum	48,900
Sibutramine	Sibutramine forum	352,000
Sibutramine	Reductil forum	411,000
Sibutramine	Meridia forum	486,000
Sibutramine	Sibutrex forum	2,350
Sibutramine	Slimex forum	227,000
Rimonabant	Rimonabant forum	347,000
Rimonabant	Acomplia forum	384,000
General weight loss	"Weight loss drugs" forum	301,000
General weight loss	"Weight loss pills" forum	1,140,000

For each individual search, the top 30 Google hits were accessed and information on the website link, website home page, date accessed and type of website were recorded. Eleven searches were carried out with the top 30 websites for each accessed, meaning there were 330 websites altogether. Of these 201 (61%) were excluded from the study through an initial screening process (Table 3). Websites were excluded if they were not forums; in these cases, the websites were often online shops or adverts advertising weight loss drugs or the websites were duplicates from within the same search, i.e. a search term may have had two separate hits to the same website appearing within the top 30 hits.

*Table 3. Reasons for stage 1 inclusion*

Reason for exclusion	Number of websites	%
Not a forum	127	63%
Duplicate	24	12%
Website not working	18	9%
Not weight loss related or a forum	17	8%
Not weight loss related	10	5%
Not in English	5	2%
Total	201	100%

<sup>8</sup> Please note, tables may not add up to 100% due to rounding

A further 45 websites were excluded as they were duplicate results from a different search term, e.g. the search term “DNP forum” and “Rimonabant forum” may have both linked to the same website.

#### *Stage 2. Identifying relevance of forums*

The second stage of analysis involved collecting more detailed information about the forums. A Geolocation tool will give information on the location of where a website was registered based on its IP address or hostname. Digital Points geolocation tool (Digital Point n.d.) was used to identify where each of the 84 websites in stage 2 had been registered. The majority of websites were registered in either the USA or UK (Table 4) however, country of registration does not necessarily mean the users of that website will primarily be from that country.

*Table 4. Country of registration*

Country of registration	Number	%
USA	31	37%
UK	16	19%
France	11	13%
Poland	7	8%
Germany	5	6%
Netherlands	4	5%
Switzerland	2	2%
Canada	1	1%
Ireland	1	1%
Italy	1	1%
Lithuania	1	1%
New Zealand	1	1%
Panama	1	1%
Portugal	1	1%
Sweden	1	1%
Total	84	100%

Each website was visited to ascertain the nature of the forum, e.g. body building, weight loss etc (Table 5). Twenty six percent of the forums were classified as other. ‘Other’ included gaming forums, entertainment forums and parenting forums, in these cases discussion on weight loss was often found in miscellaneous sub-forums and in some cases specific weight loss sub-forums. Of these, 12 were excluded as they did not include weight loss drug user discussion, for example one of the forums was for chemists discussing the chemical make-up of DNP. A further 25% (21 forums) were excluded as the websites were

not in English and therefore difficult to translate and also less likely to have UK members. An additional forum was excluded from analysis as all weight loss drug discussion on the forum centred around the advertisement of weight loss drugs. This left 50 forums included in the analysis at this stage.

*Table 5. Nature of forum*

Nature of forum	Number	%
Other	22	26%
Translation issue	21	25%
Body building	18	21%
Drugs	10	12%
Weight loss	6	7%
General Health	3	4%
Health condition specific	3	4%
Adverts	1	1%
Total	84	100%

In order to identify the feasibility of identifying female forum users, each forum was visited to see whether there was a designated female sub-forum within the site. Several of the forums did have a female specific sub-forum (18; 36%) and three forums were specifically aimed at women (Table 6). Checks were also made to see whether it was possible to identify the gender of forum posters, i.e. was sex recorded as part of the user profiles. The majority of forum profiles did not routinely include this information (Table 6). Similarly, forums were also checked to see whether it was possible to identify the location of forum posters, i.e. from which country were they posting from. Again, many forum profiles did not routinely include this information (Table 6). An additional two forums were excluded at this point as the websites had not been working throughout Stage 2.

*Table 6. Gender/location identification on forums*

	Female section	Gender on profile	Location on profile
Unknown	5	11	12
Yes	18	11	18
No	24	28	20
Female forum	3	NA	NA
Total	50	50	50

### *Stage 3. Search engine cross checking*

The third stage of the forum analysis involved validating the Google search results by carrying out the same searches across other search engines. Whilst Google is the most widely used search engine in the UK, holding 89% of the market share in the UK (as of

October 2014), Bing and Yahoo hold 6% and 4% respectively (Statista 2014). Google, Yahoo and Bing all uses different algorithms to dictate both which search results will appear and the order in which they appear, with hundreds of factors influencing this. Factors include age of domain, number of links to that webpage and number of shares on social media (Moz 2015). As each search engine uses different algorithms it may be that the same searches on different search engines will produce different results. In order to ensure that the most relevant forums were being accessed the original searches carried out on Google were repeated on Yahoo and Bing. Of the remaining 48 websites found from the original Google search, 32 (67%) were also generated from the Bing searches and 31 (65%) were generated from the Yahoo search. An additional 12 websites generated from Bing/Yahoo were added to the forum list which had not appeared in the Google search resulting in 60 forums altogether. Of the 60 websites accessed via Google, Bing or Yahoo, 30 were found across all three searches.

Many websites were excluded in stage 1 as they were duplicate results from previous searches. For example, the search term “DNP forum” and “Rimonabant forum” may have both linked to the same website. In these cases, the forum was only recorded once. However, this information is still useful to see which search terms brought up which forums. Bodybuilding forums were generally more likely to have resulted from DNP/Dinitrophenol search terms whereas the weight loss forums more often resulted from sibutramine and rimonabant key search terms (Table 7).

Table 7. Search terms and types of forum

Nature of forum	DNP forum	Dinitrophenol forum	Sibutramine forum	Reductil forum	Meridia forum	Sibutrex forum	Slimex forum	Rimonabant forum	Acomplia forum	"Weight loss drugs" forum	"Weight loss pills" forum
Weight loss	N	Y	N	N	N	N	N	N	N	N	N
Weight loss	N	N	N	Y	N	N	N	N	N	N	N
Weight loss	N	N	N	Y	N	N	N	N	Y	N	N
Weight loss	N	N	N	Y	N	Y	N	Y	Y	N	Y
Weight loss	N	N	N	Y	N	N	N	Y	N	N	N
Weight loss	N	N	N	N	N	N	N	N	N	N	Y
Weight loss	N	N	N	Y	Y	N	N	N	N	N	Y
Weight loss	N	N	N	N	N	N	N	Y	N	Y	Y
Weight loss	N	N	N	N	N	N	N	N	N	N	Y
Weight loss	N	N	N	N	N	N	N	N	N	N	Y
Other	N	N	Y	N	N	N	N	N	N	N	N
Other	N	N	Y	N	N	N	N	Y	Y	N	N
Other	N	N	Y	N	N	N	N	N	N	N	N
Other	N	N	N	Y	N	N	N	N	N	N	Y
Other	N	N	N	Y	N	N	N	N	Y	N	N
Other	N	N	N	N	N	Y	N	N	N	N	N
Other	N	N	N	N	N	N	N	N	N	N	Y
Other	N	N	N	N	N	N	N	N	N	N	Y
Other	N	N	N	Y	N	N	N	N	N	N	N
Health	N	N	Y	N	N	N	N	Y	Y	N	Y
Health	N	N	N	N	N	N	N	N	Y	N	N
Health	N	N	N	N	N	N	N	N	N	N	Y
General health	N	N	Y	Y	N	N	N	N	N	N	Y
General health	N	N	N	Y	N	N	N	N	Y	N	N
General health	N	N	N	N	N	N	N	N	N	Y	N
Drugs	Y	Y	Y	N	N	N	N	N	N	N	N
Drugs	Y	Y	Y	N	N	N	N	N	N	N	N
Drugs	Y	N	Y	N	N	N	N	Y	N	Y	N
Drugs	N	Y	N	N	N	N	N	N	N	N	N
Drugs	N	Y	Y	N	N	N	N	Y	N	N	N
Drugs	N	Y	N	N	N	N	N	N	N	N	N
Drugs	N	N	Y	N	Y	N	N	N	N	N	N
Drugs	N	N	Y	N	N	N	N	Y	N	Y	N
Drugs	N	N	N	N	N	N	N	Y	N	N	N
Drugs	Y	N	N	N	N	N	N	N	N	N	N
Drugs	N	N	N	N	N	N	N	N	Y	N	N

<b>Drugs</b>	N	N	N	N	N	N	N	N	N	Y	N
<b>Body building</b>	Y	Y	Y	Y	N	Y	N	Y	N	N	N
<b>Body building</b>	Y	Y	N	N	N	N	N	N	N	N	N
<b>Body building</b>	Y	N	N	N	N	N	N	N	N	N	N
<b>Body building</b>	Y	Y	N	N	N	N	N	N	N	N	N
<b>Body building</b>	Y	Y	N	N	N	N	N	N	N	N	N
<b>Body building</b>	Y	Y	Y	N	N	N	Y	Y	Y	N	N
<b>Body building</b>	N	Y	N	N	N	N	N	N	Y	N	N
<b>Body building</b>	N	Y	N	N	N	N	N	N	N	N	N
<b>Body building</b>	N	Y	Y	N	N	N	Y	N	N	Y	N
<b>Body building</b>	N	Y	N	N	N	N	N	N	N	N	N
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<b>Body building</b>	N	Y	N	N	N	N	N	N	N	N	N
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<b>Body building</b>	N	N	N	N	N	N	N	N	N	N	Y
<b>Body building</b>	Y	N	N	N	N	N	N	N	N	N	N
<b>Body building</b>	N	Y	N	N	N	N	N	N	N	N	N
<b>Body building</b>	N	Y	N	N	N	N	N	N	N	N	N
<b>Body building</b>	N	N	N	N	N	N	N	Y	N	N	N

#### *Stage 4. Alexa*

Alexa provides data on traffic estimates and ranks for websites (Alexa n.d.). These estimates and ranks are based on the browsing behaviour of people in Alexa's global data panel. The global data panel is made up of a sample of all internet users; details of the demographics and numbers of those in the panel has not been released by Alexa. Each website is given a rank that is based on the number of unique visitors and page views, and these ranks are provided at both a global and national level. If a website has a low level of traffic then it may be that there is not enough data, i.e. not enough visitors and Alexa records this as 'No Data' traffic ranks. Both global and national ranks were recorded for the home page<sup>9</sup> of each of the 60 forums remaining in the forum analysis. Ranks are updated every day so are likely to change during the progression of the forum analysis. When checked (on the 15<sup>th</sup> March 2015) the highest global ranking recorded was 117 and the lowest was 22,712,845. Nationally the highest rank recorded was 14 and the lowest 157,934. Twenty three of the websites did not have enough traffic to be ranked. Alexa also records the country of visitor to the website; the percentage of website visitors who were from the UK varied from 2.9% to 79.6%; again this information was not recorded for 23 of the websites. Alexa also provides some information on the demographic breakdown of the users to a particular website. Information is available on how the gender breakdown of website visitors compares to the general internet population; 17 of the websites had an over representation of female visitors, in 23 of the websites women were underrepresented and for 20 websites there was not enough information available.

The 23 websites which did not have enough information to provide their rank within the UK were excluded at this stage. Not having a rank means the traffic to the website would be quite small and not represent a high number of visitors to the website. This left 37 forums for potential inclusion in the forum analysis.

#### *2,4-dinitrophenol*

Seventeen of the 37 forums remaining forums were found following either the DNP forum (seven) or Dinitrophenol forum searches (15); of these 16 were generated from the Google search, 13 from Bing and 12 from Yahoo. Twelve forums appeared in all three searches.

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<sup>9</sup> Separate rankings for subpages are not provided

Most of the forums were body building forums (11) with five being drugs forums and one being for weight loss. Eight of the forums had specific female sections and three had gender as part of the user profiles. Only one of the websites had an over-representation of female users.

#### *Sibutramine*

Eighteen of the 37 forums had been found following searches for sibutramine forum (12), Reductil forum (8), Meridia forum (0), Sibutrex forum (2), Slimex forum (2); of these 17 were generated from the Google search, 16 from Bing and 17 from Yahoo. Fifteen forums appeared in all three searches.

The types of forums were varied; five were drugs forums, five other, three body building, three weight loss, one general health and one health condition specific. Five of the forums had specific female sections and five had gender as part of the user profiles. Ten of the forums had an over-representation of female users.

#### *Rimonabant*

Twelve of the 37 forums had been found following searches for rimonabant forum (10) and Acomplia forum (6); of these 11 were generated from the Google search, 10 from Bing and 11 from Yahoo. Nine forums appeared in all three searches.

The types of forums were varied; four were bodybuilding forums, three drugs, two other, two weight loss and one health condition specific. Four of the forums had specific female sections and five had gender as part of the user profiles. Seven of the forums had an over-representation of female users.

#### *Weight loss*

Fourteen of the 37 forums had been found following searches from “weight loss drugs” forum (5) or “weight loss pills” forum (9); of these 11 were generated from the Google search, 11 from the Bing search and 11 from Yahoo. Nine of the forums appeared in all three searches.

The types of forums were varied; three were drugs forums, three weight loss, three other, two body building, two general health and one health condition specific.



Four of the forums had specific female sections and three had gender as part of the user profiles. Ten of the forums had an over-representation of female users.

#### *Stage 5. Final forum selection*

This section of the methodology discusses the final forum selection (Table 8). The final selection of forums took into account:

**Identification of female forum users** – As this study focuses upon use of UWL drugs in women one of the first criteria taken into consideration was the proportion of forum users who are women and also whether women could be identified, e.g. through female specific forum subgroups or user profiles.

**Established by:** Proportion of users who are women

Gender specified on forum profiles

Female specific sub-groups

**The search term** – In order to have discussion relating to each drug included, consideration was also given to which search term(s) was used in finding the forum. There was representation from DNP, Sibutramine, Rimonabant and weight loss pills/drugs searches.

**Established by:** Search term used to find forum

**Type of forum** – In order to have a range of different types of UWL drug use, the nature of the forum was also considered. Representation was gained from each of the main forum types that were bodybuilding, weight loss and drugs. Other forum types were also included if they met other criteria and contained relevant UWL drug discussion.

**Established by:** Type of forum

**Search engine** – As search engines use different algorithms to decide the search engine rank (i.e. what order websites appear) forums which were found across Google, Bing and Yahoo were considered optimal. However, other additional factors such as the identification of female forum users was given more weight in this decision process.

**Established by:** Search engine used

**Forum popularity** – Websites which had a higher UK rank were considered more likely to have a higher amount of traffic, i.e. a higher number of visitors from the UK to the website. Information on number of threads and member numbers was also recorded and taken into consideration.

**Established by:** Global rank (Low – 1-15,000, Mid- 15,001-50,000, High – 50,001+)

UK rank (Low – 1-15,000, Mid- 15,001-50,000, High – 50,001+)

**Ease of searching** – Forum which were searchable through keywords without a time period restriction and did not require an account in order to view posts were considered optimal.

When deciding which forums would be included, extra weighting was given to those forums that had a higher than average number of female users and a high ranking within the UK. See Appendix B for a more detailed inclusion/exclusion breakdown of each forum.

Table 8. Final forum selection

Forum number	Search engine	Search term	Forum type	Female sub forum?	Identify female forum poster?	Female population proportion compared to average	UK ranking	Include?
1	All	Dinitrophenol + forum	Bodybuilding	✗	✗	Lower	High	✗
2	All	Dinitrophenol + forum	Bodybuilding	✓	✗	Lower	Low	✗
3	Google	Dinitrophenol + forum	Bodybuilding	✗	✗	Lower	Low	✗
4	Google	DNP + forum	Bodybuilding	✗	✗	Lower	Low	✗
5	All	Dinitrophenol + forum	Bodybuilding	✗	✗	Lower	Low	✗
6	All	DNP, Dinitrophenol, Sibutramine, Reductil, Sibutrex, Rimonabant + forum	Bodybuilding	✓	✓	Higher	High	✓
7	All	Dinitrophenol + forum	Drugs	✗	✗	Lower	High	✗
8	Google	Dinitrophenol + forum	Bodybuilding	✗	✗	Lower	Low	✗
9	Google + Bing	Dinitrophenol + forum	Drugs	✓	✗	Lower	Mid	✗
10	All	DNP, Sibutramine, Rimonabant, 'weight loss drugs' + forum	Drugs	✗	✓	Lower	High	✗
11	All	DNP, Dinitrophenol + forum	Bodybuilding	✓	✓	Lower	Mid	✗
12	All	DNP, Dinitrophenol, Sibutramine + forum	Bodybuilding	✓	✗	Lower	Mid	✗
13	All	DNP, Dinitrophenol, Sibutramine + forum	Drugs	✗	✗	Lower	Mid	✗
14	Google	Dinitrophenol + forum	Weight loss	✓	✗	Not available	Low	✗
15	All	DNP, Dinitrophenol, Sibutramine, Slimex, Rimonabant, Acomplia + forum	Bodybuilding	✓	✗	Lower	High	✗
16	Bing + Yahoo	Dinitrophenol + forum	Bodybuilding	✗	✗	Not available	Low	✗
17	All	Dinitrophenol, Sibutramine, Slimex, 'weight loss drugs' + forum	Bodybuilding	✓	✗	Lower	High	✗
18	Google	Rimonabant + forum	Bodybuilding	✓	✗	Lower	Mid	✗
19	Bing + Yahoo	Rimonabant + forum	Bodybuilding	✓	✗	Lower	Low	✗
20	All	Reductil + forum	Weight loss	✗	✗	Higher	Low	✗
21	All	Sibutramine, Rimonabant, 'weight loss drugs' + forum	Drugs	✗	✗	Higher	High	✓
22	Google	Sibutramine + forum	Sex + drugs	✗	✓	Lower	Low	✗
23	Google + Bing	Sibutramine, Rimonabant, Acomplia + forum	Women	Female forum	✓	Higher	High	✓
24	All	Sibutramine, Rimonabant, Acomplia, 'weight loss pills' + forum	Health	✗	✗	Higher	High	✓
25 <sup>10</sup>	All	Sibutramine, Reductil, 'weight loss pills' + forum	Health	✓	✗	Higher	High	✗

<sup>10</sup> Whilst forum 25 does appear to meet the criteria for inclusion, it has a very limited search function and only a small number of threads relating to UWL drugs

Forum number	Search engine	Search term	Forum type	Female sub forum?	Identify female forum poster?	Female population proportion compared to average	UK ranking	Include?
26 <sup>11</sup>	All	Reductil, Sibutrex, Rimonabant, Acomplia, 'weight loss pills' + forum	Weight loss	✗	✓	Higher	High	✗
27	All	Reductil, Acomplia + forum	Entertainment	✗	✓	Higher	High	✓
28	All	Reductil + forum	Weight loss	✗	✗	Higher	High	✓
29 <sup>12</sup>	All	Reductil, 'weight loss pills' + forum	Area specific	✗	✗	Higher	High	✗
30	Bing + Yahoo	Reductil + forum	Financial	✗	✗	Lower	High	✗
31	Bing + Yahoo	'Weight loss pills' + forum	Weight loss	✗	✗	Higher	High	✓
32	Bing + Yahoo	'Weight loss drugs' + forum	Drugs	✗	✗	Lower	Low	✗
33 <sup>13</sup>	Google + Bing	'Weight loss drugs' + forum	Health	✓	✗	Higher	High	✗
34 <sup>14</sup>	Google	'Weight loss pills' + forum	Newspaper	✓	✗	Higher	High	✗
35	Yahoo	'Weight loss pills' + forum	Weight loss	✗	✓	Higher	High	✓
36	All	'Weight loss drugs' + forum	Parenting	Female forum	✗	Higher	High	✓
37	All	'Weight loss drugs' + forum	Bodybuilding	✗	✗	Lower	High	✗

<sup>11</sup> Whilst forum 26 does appear to meet the criteria for inclusion, users can only access this forum by creating an account and paying a subscription fee

<sup>12</sup> Whilst forum 29 does appear to meet the criteria for inclusion, it is a forum aimed at residents in one city with the UK and not UK residents in general

<sup>13</sup> Whilst forum 33 does appear to meet the criteria for inclusion, it a forum monitoring by health care professionals and discussing the legal use of weight loss drugs

<sup>14</sup> Whilst forum 34 does appear to meet the criteria for inclusion, it has only a small number of threads relating to UWL drugs

### 3.3.3 Data collection

Nine forums were selected for inclusion in the analysis. Each forum was found to have a high female use, high female ranking and advanced search functions. The forums include a body building forum, one drugs, 3 weight loss, 1 health condition and 3 other. Each forum was given a code ranging from A to I.

#### *Threads accessed*

For each of the nine forums included in the forum analysis, the key term searches described in table 6 (minus the word forum) which were carried out on search engines were repeated on the forums. This is regardless of whether the forum was found following that search term or not. In total 666 threads were accessed with 440<sup>15</sup> threads selected for inclusion. Seventy six threads were excluded as duplicates and 146 threads were removed as they involved irrelevant discussion. The threads were downloaded between April 2016 and June 2016. The average number of posts in each thread was 102. Each forum was represented with the most threads coming from forum A and forum F (Table 9)

*Table 9. Number of threads*

Forum code	Forum type	Number of threads
A	Bodybuilding	132
B	Drugs	16
C	Health condition	15
D	Entertainment	14
E	Weight loss	50
F	Weight loss	120
G	Parenting	20
H	Weight loss	47
I	Women	26

#### *Gender identification*

Whilst steps were taken to choose forums with a high proportion of female users and a way of identifying female forum users, it was not possible to check every user who had posted a comment on each thread. To attempt to estimate the proportion of female users, 10% of threads from each forum were selected and user profiles from those posting were visited to ascertain gender. The threads were randomly selected by assigning each thread

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<sup>15</sup> For ten of these threads, only part of the thread (which included discussion relating to UWL drugs was accessed)

a random number using a random number generator in Microsoft Excel (= RAND()) and sorting from smallest to largest on that columns value. The top 10% of threads were taken from each forum<sup>16</sup>. Table 10 shows the gender breakdown for each forum; each forum had a substantially higher number of women posting than men with the exception of Forum A. Due to this, only threads taken from the female specific sub forum on forum A will be used in the analysis.

*Table 10. Forum gender check*

Forum code	Forum type	Female	Male	Unknown
A	Bodybuilding	7%	52%	41%
B	Drugs	70%	10%	20%
C	Health condition	70%	20%	10%
D	Entertainment	58%	13%	30%
E	Weight loss	73%	9%	18%
F	Weight loss	64%	18%	18%
G	Parenting	93%	0%	7%
H	Weight loss	95%	0%	5%
I	Women	70%	0%	30%

### 3.3.4 Interpretation

Four hundred and forty threads were included in the analysis. Data were analysed using NVivo 10 for initial coding and organisation of themes. Thematic analysis was carried out as recommended by. This method has been used successfully previously within previous online forum analyses (e.g. Attard and Coulson (2012)). Themes were generated and are described in chapter 5. This method follows a six step process:

- 1) **Familiarising yourself with the data:** This involved reading and immersion of the data. This was particularly important for the online forum analysis as data had not been collected through an interactive way, e.g. through an interview and had not required transcription. Instead forum threads and posts were downloaded and as such there was not the same level of familiarity as there would have been through other methods of data collection. All forum threads were read through once initially with meaning and patterns beginning to emerge throughout this process.
- 2) **Generating initial codes:** The data was then read again, this time more actively looking for meaning within the data. Patterns and themes were coded in NVivo version 10.

<sup>16</sup> If the selected threads did not include discussion from at least 10 forum users additional threads were visited.

- 3) **Searching for themes:** Codes were then grouped into overarching themes and subthemes within NVivo.
- 4) **Reviewing the themes:** Themes were reviewed. Coded data was reviewed to assess its suitability within a particular theme. Themes were re-grouped and reworked until identified themes were thought to best fit the data.
- 5) **Defining and naming the themes:** Themes were defined based on the main essence of the themes purpose and name.
- 6) **Producing the report:** The analysis was written up, data extracts chosen to capture the main points of each theme or sub-theme and accompanying description of each theme written.

#### **Reflexive pit stop – Data analysis**

Originally, I had planned to use Empirical phenomenological psychological (EPP) five step method would be used for this analysis. EPP is based on phenomenology theory and allows for the collection and qualitative analysis of textual data in an unbiased manner, with the aim of describing rather than explaining phenomena. Furthermore, this method has been used successfully previously within online forum analyses (A. Kjellgren, Jonsson, K 2013). This method involves breaking up text into meaning units each time a new meaning is introduced, and transforming these meaning units into researcher language. However, I decided that EPP five step method would not be appropriate to use and a standard thematic analysis would be more suitable.

There are three main reasons for this; the first is that the volume of data generated from the forum analyses means that it would not be practical to carry out the process of breaking up the text into meaning units and transforming into researcher language. With the exception of this stage of the analysis, EPP is very similar to a standard thematic analysis and it was felt that this additional step would not improve the data quality.

Secondly, the process of transferring quotes to researcher language may mean that there is a loss in data quality as the original utterance is not being used, which could potentially lead to misinterpretation or degradation of quotes. Therefore, it was considered preferable to keep the quotes as close as possible to the original utterance.

Thirdly, there is very little research that has looked at the use of UWL drugs in females and as such there are no pre-conceptions of what may be found during the analysis process. Due to this, I felt that a standard thematic analysis would be appropriate, as a more inductive, exploratory method of analysis is required.

### **3.4 Study 1b. Analysis of other online communities**

In addition to online forums, other online communities were analysed to assess whether they contained discussion concerning UWL drugs. In particular Twitter, YouTube and one further online discussion group were examined. Searches were carried out on these platforms for UWL drugs discussion involving women. Whilst Twitter contained some discussion referring to UWL drugs, the data was limited and was not felt to add anything

additional to the forum analysis. Similarly, searches were carried out on YouTube for videos relating to UWL drugs. Here whilst there were many videos looking at people's weight loss transformations following UWL drug use, this was predominately carried out by men. However, adverts promoting the use of UWL drugs were most commonly aimed at women. Whilst an interesting observation, it was not felt that analysis of the videos would add anything to this research and they were therefore excluded. Finally, an online discussion group was examined. This discussion group had been mentioned by forum users on forums examined in study 2 as somewhere they discussed UWL drug use. This online group is public and has a subgroup dedicated to the discussion of DNP; however, as posters are anonymous it is not possible to ascertain whether those posting are men or women. Nonetheless, it was felt that there was interesting discussion concerning the use of DNP on this subgroup. Searches were made for posts where the original poster had identified themselves as being a woman. This resulted in 30 threads that were included in the overall forum analysis. There were no instances of women on this forum discussing either sibutramine or rimonabant. In future reference, this forum will be referred to as Forum J.

### 3.5 Study 2. Forum moderator interviews

This study aimed to address number 4 of the overall research aims '*To assess the role of online forums in health promotion and sharing of harm reduction information*'

#### 3.5.1 Recruitment and procedure

Study three involved interviews with forum moderators. Moderators of forums where discussion relating to UWL drug is occurring are ideally placed, as they are likely to have knowledge of the drugs in question, the drugs market and the ways in which online forums are used and managed. A selection of forum moderators from forums analysed in study 2 were originally approached. Original selections attempted to include a mix of male and female moderators and from a range of different types of forums, e.g. bodybuilding, weight loss and drugs. However, due to a poor response, the forum moderator selection process was widened to include moderators from forums that had been considered but not included in study 2. Where possible, moderators were invited to participate if they specifically moderated female or enhancement drug sub forums. Moderators were provided with a participant information sheet (Appendix C), which contained detail of the study and contact details for the researcher. Participants either signed the consent form



(Appendix D) prior to the interview or, for those who had not returned the consent form in time, they were consented at the start of the interview.

Moderators of online forums considered for inclusion in stage 2 were recruited. Participants were eligible if they moderated a forum and were able to give informed consent to participate. Where the option was available, moderators were sent a private message inviting them to participate. If no private message function<sup>17</sup> was available then moderators were emailed or posts detailing the study were uploaded to 'Ask the moderator' pages (See Appendix E for forum moderator recruitment message). Non-respondents were contacted again after a period of two weeks. Those who had still not responded after the second message were not contacted again and excluded from the study. Forums moderators included in study 2 were originally invited to take part. Once happy to proceed, times and places convenient for the participants were agreed. Of the nine forums included in study 1 and following attempts to recruit a moderator, one forum permanently banned<sup>18</sup> the researcher, two stated that no moderators wanted to take part, five did not respond and one agreed to take part. Due to low uptake, recruitment was then opened up to moderators who moderated other forums. These were forums which had been identified during stage 2 but discounted. Priority was given to forums that had had female specific sub forums but had been discounted for other reasons. A further nine forums were contacted with moderators with a second forum banning the researcher, many not responding and three agreeing to take part. Additionally moderators from the online community identified in stage 2b were also recruited. For those that did not wish to take part, the reasons given varied. Some just stated that they were not interested in being involved, one had been involved in research previously and was not happy with how their information had been used, some said they were new moderators and did not think they would be helpful and two wanted paying for their time. Follow up messages to those moderators to reassure about e.g. how their information would be used or the value of their knowledge did not receive a response.

Given difficulties in recruiting and the reluctance of moderators to take part, a pragmatic approach was needed. Moderators who had agreed to take part were allowed to choose

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<sup>17</sup> Some forums required members to have posted a certain number of times before they could use the private message function/

<sup>18</sup> No reason was given by the forum for the ban

how the interview was conducted with most not wishing to speak directly with the researcher. Moderators often did not want to give their real names and instead were referred to by their moderator names. Throughout this research, a mix of interview techniques were implemented; one interview was done through a Skype call, two through Skype messenger and one through email. The advantages and disadvantages of this are discussed in the limitations section of this chapter.

The final sample consisted of four moderators. One from the forums included in study 2, two from other online communities identified in study 2b and one from forums discounted during study 2. One moderator was from a fitness forum, one from an enhancement drug forum, one from a weight loss drug forum and one from general drug forums. The original aim was to conduct six to 12 interviews, which is in line with previous research which has found that data saturation is reached within the first 12 interviews (Guest 2006). Whilst the number of interviews is less than anticipated, all main forum types identified in study 2 were represented.

### 3.5.2 Interview schedule

The interview schedule (Appendix F) was informed by areas of interest identified during stages 1 and 2. During stage 2 in particular, the volume and variety of information shared and accessed concerning UWL drugs across different forums was identified. Whilst initially forum moderators were originally included in the study design as it was felt that they would hold information about UWL drugs markets, the research focus changed to instead being more interested in the role of online forums in providing knowledge around harm reduction and good practice information sharing. In particular, the interview schedule aimed to tease out forum moderator's' views of the online discussion relating to UWL drugs, the stance of the forum in regards to UWL drug use, and discussion of the role forums can play in online harm reduction. Interviews were semi-structured and the interview schedule was used as a guide and not a rigid instrument with participants encouraged to discuss and explore their attitudes and opinions around UWL drugs (Bloomberg and Volpe 2016). The interview schedule however did loosely form three parts, 1) participants' moderating history, 2) how information is shared and managed on online forums, and the role of the moderator in this and 3) the role of online forums in harm reduction.

### 3.5.3 Data analysis

Interviews lasted up to three hours and were (when through telephone) audio recorded and transcribed verbatim. Interviews which were conducted through email or messenger were copied and pasted into a Word document and identifying information, e.g. names, locations or names of forums were removed. Data were analysed using NVivo 10 for initial coding and organisation of themes. Thematic analysis was carried out as recommended by Braun and Clarke (2006).

### 3.6 Study 3. UWL drug user interviews

This study was used to complement previous stages and help to answer all aims. Interviews with UWL drug users were carried out in order to complement data accessed from the forums and provide richer data around individual experiences.

#### 3.6.1 Recruitment and procedure

Moderators of forums used in study 1 and study 2 were asked whether messages could be posted on their forums advertising the study in order to recruit UWL drug users (Appendix G). The study details were posted in seven forums and was also advertised on Twitter and Instagram (Appendix H). Analysis of online forums and discussion with moderators had highlighted that the most common UWL drugs in use for women were sibutramine followed by DNP with rimonabant generally being used far less. Whilst recruitment material did include rimonabant users, it was anticipated that it was unlikely for those users to be recruited. UWL drug users were provided with a participant information sheet (Appendix I) which detailed the study and contact details for the researcher. Participants either signed the consent form (Appendix J) prior to the interview or were consented at the start of the interview.

UWL drug users were recruited. Participants were considered eligible if they were women and were currently using or had ever used an UWL drug (sibutramine, rimonabant or DNP). Recruitment was attempted through forums identified in study 1 and 2 and moderators were asked if messages could be posted on the forum advertising the study. As in study 3, often this response was not replied to and in two cases resulted in the researcher being banned from the forums. One additional forum had a ban on all research recruitment requests as they had received multiple requests in the past. Searches were carried out on Twitter and Instagram for tweets or posts relating to weight loss drug use and notes were made of the most commonly used hashtags. These hashtags were then used within the

researcher's recruitment tweets to enable potential UWL drug users to find the study details more easily. Hashtags used referred to fitness, e.g. #fitspo, #fitspiration, #fitgirl, being slim, e.g. #thinspo, #thinspiration, the drugs themselves, e.g. #dnp, dietpills, #acomplia, bodybuilding, e.g. #fbb, #bodybuildinggirls or just general weight loss, e.g. #weightloss, #weightlosstransformation. There was also some indication that DNP in particular was discussed within pro-anorexia groups so hashtags like #proana and #proanna were also used. Those interested in taking part were encouraged to direct message the researcher through Twitter, Instagram or the online forum or email the researcher via the project specific account [weightlossdrugs@ljamu.ac.uk](mailto:weightlossdrugs@ljamu.ac.uk).

As with study 2, there were difficulties in recruiting. Often recruitment attempts via forums led to responses from forum members stating that women did not use these drugs despite the forum analysis not suggesting this. Again as in study 2, a pragmatic approach was taken with those UWL drug users who were interested in taking part in the interview being allowed to choose their preferred method of doing so. One participant in particular expressed strong wishes to carry out the interview through Skype messenger but did not want to give her real name, rather she was referred to by her online user name. One interview was conducted through Skype messenger, one through the forum and one through the telephone. Again, the disadvantages of this will be discussed in the limitations section of this chapter.

The final sample consisted of three UWL drug users, one who was a DNP user and one who used sibutramine. In addition, a response from a female DNP user to the study advert will also be included. Whilst this response did not result in an interview, this information was still considered useful. Whilst the sample size is small, it was felt more important to gain representation from users of different weight loss drugs and from also different groups of users, e.g. the informed user versus uninformed user.

### 3.6.2 Interview schedule

The interview schedule (Appendix K) was developed following the completion of previous stages and was informed by those stages. During stage two interest was generated around the value of online forums and how and why information is shared on them. Many of the questions here focused on which online communities or forums people use and why. Additional focus was given to what information was gained from online forums, and what information participants shared. Questions specific to the use of UWL drugs were also

asked, with particular focus on motivations for use, other weight loss strategies, positive and negative experiences and side effects. Again, interviews were semi-structured and the interview schedule was used as a guide and not a rigid instrument, with participants encouraged to discuss issues which they perceived to be of importance.

### 3.6.3 Data analysis

Interviews lasted up to 90 minutes and were (when through telephone) audio recorded and transcribed verbatim. Interviews which were conducted through email or messenger were copied and pasted into a Word document and identifying information, e.g. names, locations or names of forums were removed. Data were analysed using NVivo 10 for initial coding and organisation of themes. Case studies from each interview were created and described in chapter 6.

## 3.7 Ethical considerations

Ethical approval was granted for each study by Liverpool John Moores University ethics committee. Study 1, the online forum analysis was granted approval in March 2015 (ref code 15/EHC/028). Study 2, interviews with forum moderators was granted approval in June 2016 (ref code 16/CPH/016) and study 3, interviews with UWL drug users was granted approval in November 2016 (ref code 16/CPH/027). See Appendix L for approval letters from the ethics committee.

### 3.7.1 Study 1. Online forum analysis

For study one, guidance was sought from the British Psychological Society (BPS) guidelines (The British Psychological Society 2013) on conducting internet mediated research and Kozinets' work on netnography (Kozinets 2002, Kozinets 2010, Kozinets 2015). In line with the guidelines and following discussion with the LJMU ethics committee and colleagues the following guidelines have been followed;

1. Only publically accessible forums have been used
2. Consent was not gained from participant as the information can be considered in the public domain
3. Information has not been included regarding the name of the forum or forum posters
4. Direct quotations from forum posters were used as the potential for causing forum posters harm by doing this was minimal.

Participants/Forums were assigned a unique identifier and forum posts and analyses were stored securely on a password protected LJMU computer. Any information relating to user names, actual names and location of residence of the participant were removed.

Whilst this research does specify that only publically accessible forums will be used, consideration does need to be given to the fact that even if a forum is publically accessible the forum users may not perceive that a public audience will be accessing it. Previous research has found in some cases where forum users have found their words have been used in research a breach of trust or privacy is felt to have occurred (Barratt 2010). However, as previously mentioned this should be considered alongside the potential to cause harm to participants, if it was felt that participants could be identified from verbatim quotes and this had the potential to cause them harm, e.g. through the discussion of illegal drug use then steps were taken to minimize this, e.g. slight modifications made to the quotes (without changing the meaning) to ensure they cannot be found. Further considerations relating to the ethics of online research is discussed within chapter 7.

#### 3.7.2 Study 2 and 3 Interviews with moderators and forum users

In both study two and three, participants who had seen recruitment adverts and contacted the researcher stating that they would like to take part in the research were provided with written information (via a participant information sheet (Appendix C And I) about the purpose of the study. The participant information sheet outlined the purpose of the research and what would be expected of participants. Participants were also at this point given the opportunity to ask questions about the study. If participants were happy to proceed then they were also asked to sign a consent form (Appendix D and J) prior to the interview. Those who did not sign the consent form gave verbal consent before the interview commenced. Participants were told that their participation was voluntary, they could stop the interview at any point and that their data would be treated confidentially. It was considered that for study 4, participants may become distressed whilst discussing their UWL drug use. Participants were advised if they wished to seek support concerning their UWL drug use that they could contact 'Talk to Frank' and contact details for this service were provided. All interviews were coded, identifiable data was removed from the transcripts and transcripts were stored on password protected University computers. To ensure confidentiality of the participants, transcripts were anonymised of identifying

features. Mentions of forum user names, the name of the forum, locations and any other names were removed.

#### **Reflexive pit stop – Identifying female forum users**

Outlined throughout the methodology are steps taken in order to best identify forums that have a high female presence as well as steps taken to identify female forum posters. Here I only selected those forums that were female focused, had a specific female sub-forum or only used forum threads where the poster had specifically said that they were a woman or their profile indicated as such. Identifying female forum members was easier for some forums than others. For example, on some forums such as those discussing parenting techniques or those with female specific topics, it was much clearer whether posters were women or not due to the nature or subject matter of their posts. On the bodybuilding and drugs forums however, differentiating between male and female members was far more difficult. This was particularly difficult when looking at posters who were responding to a question within the forum. For example, a member may say I am a woman who wants to lose 20 pounds and ask for advice on which weight loss drugs to use. Here, the post explicitly states that the member is a woman. However, responses to that post may not always be as clear. This is because in these instances members may not state anything personal about themselves but rather just offer advice to the original poster.

Furthermore, even for those posters who appeared to be women, it is not possible to know whether this was the case. The predominately online nature of this research and lack of contact between myself and the 'participants' of the study means I have no way of knowing for sure whether those using the forums are who they say they are. However, this is the case in all research where there is a lack of contact between the researcher and participant, such as an online questionnaire and may also even also be the case where this is contact.

Given the online nature of this research there is potential for male forum user's posts to have been inadvertently selected. However, the systematic processes utilised both in selecting forums and forum threads means that there can be the same level of confidence as we would have in any research in saying that those participating are who they say they are.

### **3.8 Limitations**

A number of limitations were identified throughout this research. In particular issues around online forum analysis and interview methods are discussed.

#### **3.8.1 Online forum analysis**

Here there were three main issues. The first was in the forum selection. Due to ethical issues, only public forums were accessed. However, often the researcher was made aware of closed or private groups where discussion around UWL drug was taking place. As UWL drug use is a sensitive issue with legal implications, it may be that not including those groups means that this research has missed more open and honest discussion about these drugs. The second issue is concerned with how the volume of data generated in study 1 (due to trying to account for different UWL drug users and using multiple forums to do this) meant that it was not possible to look in more detail at online user profiles. There was

no attempt to collate individual's posts or retrospectively monitor their posts to see if the forum had for example influenced their behaviour. Furthermore, user profiles were not examined so, unless explicitly stated in the post, the researcher had no knowledge of their background or their weight loss journey.

### 3.8.2 Interviewing

It was anticipated at the start of the study that most interviews in study 3 and 4 would be carried out via telephone or Skype call due to the probable geographical dispersion of participants and the potential sensitive nature of the subject. However, the intention was for all interviews to be carried out using the same method and not doing so results in obvious disadvantages. Different strategies of conducting an interview can cause differences in both the type and quality of information gained. Conducting email or messenger emails can result in extended access to participants (Opdenakker 2006) as was the case in this research; it was felt that not offering these options would have resulted in less participants recruited. However, using face-to-face interviews means that the researcher can pick up on social and non-verbal cues such as tone of voice, intonation, gestures and body language, some of which will be missing in telephone interviews and all of which will be missing in messenger or email interviews. Whilst some arguments are made that in messenger or email interviews, emoticons can be used to suggest intonation, there are differences across cultures in how emoticons are used and what their perceived meaning is (Opdenakker 2006). However, it can be argued that affective contributions in any interviews are subjective and open to researcher interpretation. Kazmer and Xie (2008) discuss how in their research when a participant laughed it was the researcher's decision whether to include this or not but in typed responses, e.g. messenger or email interviews it becomes the participant's decision.

### 3.9 Chapter summary

This chapter has provided an overview of both the methodology chosen for this research and in detail outlined the methods taken. Three studies have been outlined; an online forum analysis, interviews with forum moderators and interviews with UWL drug users. Each method was described and particular attention was given to the discussion of the online methods used and the systematic process involved in undertaking this study. The next chapter (Chapter 4) presents a summary of each of the forums analysed.



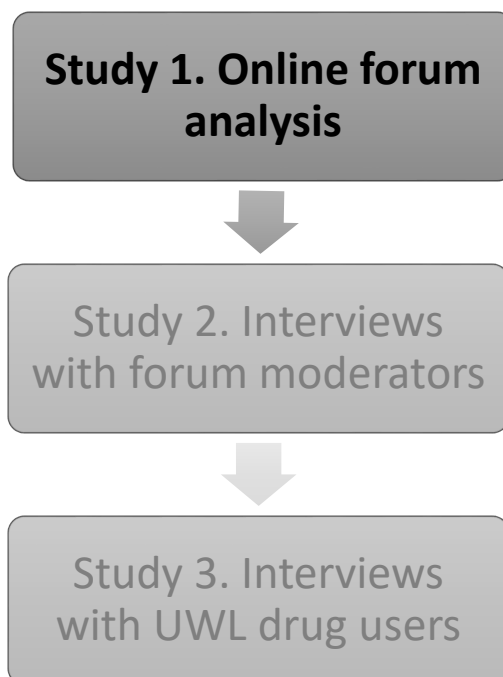
## Chapter 4. The group dynamics of online forums

### 4.1 Introduction

The aim of this chapter is provide an understanding of the types of online communities where UWL discussion takes place. A description of each community is provided as well as information on the purpose of the forum, the dynamics of the forums, the role of the moderator, the way experiences are shared and how those experiences influences forum users behaviour.

This chapter presents findings from study 2, (Figure 4), analysis of online forums. Data obtained from the online forum analysis is presented with extracts provided to illustrate the findings<sup>19</sup>.

*Figure 4. Order of research studies*



Ten forums were selected for inclusion in this research. Forums were selected according to a specific methodology and inclusion and exclusion criteria. For a more detailed breakdown of how the forums were selected see Chapter 3. This section provides an overview of each of the different forums, what they are used for, how information is shared on them and how members interact.

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<sup>19</sup> Quotes provided are as written in online forum posts. Whilst quotes have been checked to ensure Google Searching does not bring up the original post, they have not been edited for spelling or grammar.

#### 4.2 Forum A: The in-group bodybuilder

Forum A is aimed at bodybuilders. It is a large forum with over 10 million members and over 6 million threads. It is hosted on a website which supports training plans and weight loss plans for both men and women as well as an online shop which sells supplements for weight loss, muscle building and increased energy. The forum has a number of sub forums with a focus on fitness, nutrition, bodybuilding and supplements. Initial searches on forum A found 132 threads where discussion about an UWL drug was taking place. However, due to small female numbers on these threads only those threads which were in a female sub-forum were included (n=22). Despite discussion taking place on the forum around UWL drugs, the forum rules requested that users did not discuss any drugs, which were illegal or banned substances. Discussion of these substances could result in the forum poster being banned. Whilst forum threads discussing UWL drugs were available on this forum, it did appear that many of these threads had been closed potentially due to them discussing unlicensed substances. Invitations by the researcher to forum moderators to take part in interviews for this research resulted in the researcher being banned from the forum with no reason given.

##### 4.2.1 Attitudes towards UWL drugs

Several threads on forum A were from women asking for advice on the use of DNP with thread titles such as *"DNP for weight loss"* and *"Has anyone tried DNP?"*. There were a few references to sibutramine and rimonabant but in most cases just as a comparison to DNP to say that they were not as effective. Attitudes towards the use of enhancement drugs on this forum was generally mixed with many women stating that they used some form of weight loss drug or fat burner often alongside other supplements or enhancement drugs. However, the women on this forum did strongly advise against the use of DNP in "newbies" or those who had not done their research making such comments as *"Do you really want to be suggesting DNP and Clenbuterol to her? She's a first-time competitor trying to lose several lbs"*. Additionally there was much discussion concerning the side effects of DNP and other UWL drugs such as *"besides killing you in less than a day, can also cause cataracts, and cell mutations...hmm cell mutations and oestrogen and breast = cancer"*. There were many women who did not advocate the use of UWL drugs but did not openly judge other for using or considering their use stating *"I prefer to stay legal, though. No*

*judgement, just the way I roll*". Many discussed competing in bodybuilding competitions and having lean muscular physiques commenting that *"my abs are starting to show muscular form...legs also"*, suggesting that the use of UWL drugs in these women was mostly as an addition to rigorous diet and exercise programmes.

#### 4.2.2 Sharing of experiences

Forum A was often used by women as an avenue to share their own experiences of weight loss and more specifically UWL drug use. As it is a bodybuilding forum, much of the discussion was centred around competing in body building competitions and losing weight in preparation for this, for example, *"I am finally planning to do my first even BB competition and I'm looking for some advice regarding supplementation"*. Whilst women, despite their views on UWL drugs most often responded to these threads in a respectful and informative manner there were some instances where this was not the case. This was often in response to others who stated they were considering using UWL drugs due to being overweight, *"I am overweight and trying to lose 50 lbs... I want a toned, muscular, firm body and I will pretty much do anything to get it"*. In threads of this nature, there were far fewer responses. Those who did respond were often dismissive of the forum poster appearing to feel that they were just looking for a quick way to lose weight and seemingly assuming that they had given no consideration to their diet or exercise regime arguing that *"Fat loss will always go back to your diet, there is no magic pill"*. What was also clear here was the definite division between the long-term Forum A members and those considered 'newbies'. New members frequently sought advice from those longer term members who they believed to be experts saying *"I am looking for sound advice and relying on the expertise of people on this site because they at least look like they know what they are talking about - have been doing it for a long time and likely have some wisdom to impart to someone who is starting to rebuild her body back all over again"*. Similarly women often recommended specific people to speak to on the forums saying *"DNP can kill u.. hop onto [name of forum member] site or pm her...she can get u on the right track...the correct track"*. This suggested a sense of community on the forum with members having awareness of each other's knowledge and interest. However, attitudes towards new members was often quite negative with established forum members believing them to have little knowledge, making such comments as *"BLAH. I feel like a newbie retard, drowning in a sea of valuable information that I can't use because I can't process it"*.

Women were extremely candid about sharing their experiences suggesting a feeling of comfortableness posting within a forum setting. They spoke about the specific drugs they had used, for example, *"i used two substances known as "DNP" and "clen" as well as motivations for use, "I have been weight training for a few months now and I have put on alot of muscle but I cant seem to lose any body fat in fact I have gained weight...I have heard that DNP works really well to lose weight and lose it fast has anyone heard this or tried it?"*. There was also a willingness from some members to share their own experiences in order to assist others in using UWL drugs, *"i can give you some pointers and tell you what it was like for me to take it if you like"*. Women often seemed to want to share their experiences in order to educate others and prevent them from wasting their time on costly and ineffective weight loss products arguing, *"when it comes down to cutting, it's my subject. I've done numerous amounts of supplements, over the counter and black market...I've lost 45- 50 pounds in a year, but lost a lot more money wasted on things that didn't work so hopefully I can help"*.

#### 4.2.3 Supportive community

On forum A it was clear that there was often friendship and collective understanding between the women. There were many 'in-jokes' such as participating in online role play where they pretended to be attending a night out, *"I'll DJ lol"*, enquiring after specific members *"Hey [member name]! How is your Sunday treating you?"* and greeting and saying farewell to members *"Heeeeeeeeeey! Just popping in to say goodnight everyone!"*. Beyond this, members also used the forums to discuss issues and events occurring in their real lives such as other peoples reactions to their physique, e.g. *"She said that she only wants to lose her fat, and not build any muscle because she doesn't want to look gross like me"*, and feelings of insecurity and unhappiness such as *"I feel like clawing my face off when I look at myself in the mirror. (STRONG SELF LOATHING) right now"*. Issues with health and the impact of this on competing were also discussed, for example, *"well ladies this is a very depressing post for me and I'm scared. So I'm sitting at 67 days out which is about 9.5 weeks out from my comp and the past 4 days have been horrible"*. When women expressed feeling negative about their weight loss or other aspects of their lives, others responded in supportive and encouraging ways saying *"Don't ever give up on a dream due to the amount of time it will take to achieve it, the time will pass anyway"*. Similarly, they expressed concern over the lives of others on the forum such as enquiring after their health, e.g. *"Morning [member name], you feeling any better today?"* and posting

supportive messages when members discussed negative reactions from those in their 'real lives'. Additionally when women posted feeling positive about how they looked, they got positive reactions towards their appearance such as *"CONGRATULATIONS!!!! You are so pretty! You should try getting on the cover of [female fitness magazine]"* as well as their achievements and potential future achievements, *"Yay for the 17.8% body fat!!!! woo-hoo!!!! That is awesome! You are going to be great on stage!"*.

#### 4.2.4 Impact of forum on members attitudes or behaviour

There was a lot of information given on the forums by women concerning the use of UWL drugs both advising for such as *"it sounds like the DNP would be something you might want to start looking into"* and against their use, for example *"DNP is banned. It is for research purposes and not appropriate to talk about on this forum, and it CAN KILL YOU"*. As previously mentioned, both the level and type of information varied dependent on how those asking the questions were viewed. However, what was apparent was that those posting advice did have an impact on others in their decisions whether to use or not use weight loss drugs. For example, one woman posted asking generally about diet pills stating that she was only 18, was in her cutting phase and wanted to know what other drugs people had used and whether she should use them. Members originally commented on her diet and exercise regime and made suggestions from where she could improve prompting her to respond *"Thanks for the advice. I will definitely try that"*. Furthermore, women on this thread also argued for losing weight without resorting to diet pills. Drugs like DNP were mentioned but argued that whilst DNP was effective it was *"not a cool toy to play with"*. In this case, responses from other members prompted the original poster to respond stating that *"Thanks everyone for your words of confidence and knowledge! You guys really know your stuff. I feel a lot better about dieting without the use of diet pills...I feel like I will actually succeed now!"* For a woman considering using a fat burner to lose weight for a body building competition there were many suggestions of different UWL drugs and other weight loss products that she could consider taking including DNP. However, others suggested that something like DNP would be too *"hardcore"* and instead suggested fat burners that were considered less dangerous. In this case, the forum member responded by saying *"Thanks to everyone who posted... I will take the advice of a fat burner... I agree that trying anything more than that at this stage is inappropriate... but thanks for the information anyway"*. Whilst it is impossible from the forums to know for

certain whether members did take advice or not, their postings suggested that they were intending to.

#### 4.3 Forum B: The risk averse

Forum B is a drugs forum. It is a large forum with over 700,000 members and over 300,000 threads. There is a focus on legal drugs and the forum is aimed at both those using drugs and health care professionals who administer them. Information is given about drugs, their side effects and interactions but the sale of drugs is not permitted on this website nor is seeking advice concerning illegal substances. Forum B had 16 threads that included relevant UWL drug discussion. There was no DNP discussion on forum B. Instead there was a focus on sibutramine and rimonabant. Whilst there was some discussion of these drugs prior to the drugs withdrawal of license, focus was given to discussion that occurred since they become banned. No response was received from forum moderators to take part in an interview.

##### 4.3.1 Attitudes towards UWL drugs

There were many threads on forum B where women requested information about UWL drugs and were looking for quick weight loss. Thread titles such as *"I'm in need!!"* and *"What else is good for quick weight loss?"* illustrates this. However, often UWL drug discussion on this forum was closed down quickly with members arguing that they *"don't promote selling drugs on the forum"*. In addition, answers to threads of this nature was often limited with usually only one or two members responding. There was also a lot of discussion promoting other weight loss strategies over UWL drugs with members saying *"Drugs aren't the way to go for weight loss"* and instead promoting diet and exercise such as *"I would recommend exercising and no junk food. This should solve your weight problem. You are in good health, why do you want to spoil yourself, getting addicted to drugs"*. There was a high level of scepticism towards UWL drugs on forum B with women often arguing that they were not the answer to for sustained weight loss saying *"most of the time they do not work"*. There was also some discussion around where to purchase UWL drugs with women arguing that buying any drug online was risky and advising members against this, e.g. *"Buying medication online can be dicey. Be careful"*. Although limited, there were some posts promoting the use of UWL drugs and advertising their sale, *"We can supply Rimonabant with best price and quality"*.

#### 4.3.2 Sharing of experiences

Forum B was used by many women to share experiences of their weight gain and motivations for considering the use of UWL drugs as well as their experience of using the drugs, both negative, e.g. *"I have been taking 1/2 tablet...I have energy and my appetite is suppressed but I have not noticed a weight difference"* and positive, e.g. *"I have been on Meridia for around a week now and don't have craving for sweets anymore"*. Members also used the forum to ask about other methods of weight loss they could use, for example *"What am I doing wrong? I am looking to lose 20 to 25 lbs. I haven't even lost 1 lb yet!"*. Whilst women were very open about sharing experiences in their lives and explored the motivations for using UWL drugs, there was very little information on this forum concerning in depth experiences of using the drugs. This may have been due to negative or limited responses to those who were enquiring about these drugs.

#### 4.3.3 Supportive community

There was a great sense of support and nurturing on this forum. Women on the forum appeared comfortable talking about many personal issues. One recurring topic which was discussed was depression with many discussing how their use of antidepressants had caused them to gain weight, e.g. *"I just got to this site by searching for a possible new antidepressant (I suffer from anxiety, panic attacks, and depression), that wouldn't result in weight gain"*. Beyond discussion around weight and how to lose it, women discussed many personal aspects of their lives including their home situation such as *"My husband decided after being together for 11 years and married for 4, to announce that he doesn't love me and wants a divorce"*. In many instances women appeared to view the forum as an outlet for them to discuss stressful situations as seen here, *"Anyone out there know what I'm saying? Thank you for listening"*. Women frequently stated how much the forum meant to them, e.g. *"I am so grateful that I found this forum"* and seeming comforted by other members being in similar situations to themselves saying *"I can't believe I found someone that is in the same situation!"*. Women on the forum seemed to have been members for sustained periods of time rather than dipping in and out and frequently kept others up to date on their lives with comments such as *"Will keep you posted because I am determined not to be fat anymore. Thank you to all of you for your posts"*. It was clear from the posts that the women on this forum had shared histories and were aware of ongoing issues and events in other member's lives that demonstrated familiarity, e.g. *"I am sorry to hear that. It is good that you are being strong. Don't give up"* and explicitly asking them

about ongoing issues such as “[Forum member]. Just wondering how the reduction in medication is going. Have you lost any weight”. Women on the forum generally displayed caring tendencies towards those seeking UWL drug advice however advised caution to members in using UWL drugs.

#### 4.3.4 Impact of forum on members attitudes or behaviour

There was very little evidence of forum B influencing others decision in using UWL drugs. This is likely due to women not frequently engaging in discussion of this nature. For the few occasions where patients did ask about UWL drugs or share their experiences, for example *“I took 10mg of Meridia for four weeks. I lost 16 lbs”*, responses were minimal and negative arguing that the discussion of drugs of this nature was not permitted on forum B or that they were unsafe. Usually this resulted in the thread being closed so it was then not possible for the original poster to respond meaning it was impossible to know whether advice from forum members had been taken. Unfortunately, due to a lack of advice to forum members it meant in some cases women were given incorrect information about UWL drugs but did not have this error rectified by other members, e.g. *“I was under the impression that Sibutramine and Phentermine are the same so I ordered 120 of the 15mg”*. It is unclear whether this was due to a lack of knowledge on the forum about the drugs or whether it was due to a lack of engagement about the topic. However, it was clear that women did take advice from others or were at least receptive to the advice and experiences that had been shared as seen in this comment *“Thank you everybody for sharing your experiences. I thought I was going crazy”*.

#### 4.4 Forum C: Overweight and frustrated

Forum C is a forum designed for people with Type 1 or Type 2 diabetes. It is a fairly large forum with over 100,000 members and over 50,000 threads. Whilst the main focus of this forum is not UWL drugs, discussion of these drugs is still evident. Fifteen threads were included in the analysis and all discussion focused on rimonabant or sibutramine. Much of the discussion of these drugs related to women using them prior to them becoming unlicensed which was excluded. There are no explicit rules banning the discussion of UWL drugs, rather the rule focus upon encouraging a positive and respectful environment. No response was received from forum moderators to take part in an interview.



#### 4.4.1 Attitudes towards UWL drugs

Forum C had discussion from women who claimed to use UWL drugs pre-ban as well as some querying where they could get them from. Most of the threads centred on struggles with losing weight with thread titles such as *“Unable to lose weight”* and views on the use of these drugs were mixed with some members advocating the use, e.g. *“Losing weight is the main problem but I can suggest you one drug that help in losing weight named as Acomplia”* and others advising against, for example *“Sounds like Rimonabant. However, reading side effects etc I don't think you want to go there!”*. Generally, though women on this forum did not consider UWL drugs as an option for them. There were many who had used rimonabant or sibutramine prior to their ban but due to them now being unlicensed would not consider still using them stating *“Acomplia and Meridia were withdrawn on safety grounds several years ago”*. Furthermore, many members expressed unhappiness at these drugs being banned as they considered them effective weight loss drugs and had not been able to find an adequate replacement saying *“They're not working at the moment, if only they had not banned Acomplia”*.

#### 4.4.2 Sharing of experiences

Women did discuss their experiences of weight loss, for example *“Within 6 weeks and with little effort, I lost over half a stone”* and the reasons why they wished to lose weight saying *“I am overweight, my BMI is 29”*. Most often on this forum, weight was linked to diabetes and much of the discussion was centred on the use of oral-antidiabetic drugs, coping with diabetes and trying to lose weight, for example *“I was diagnosed with type 2 diabetes and had to change my diet”*. There were instances where women asked for others experiences of using UWL drugs such as *“Anyone else struggling to lose weight or has started on Reductil?”* or for other members to share their knowledge of some of the effects associated with their use, e.g. *“What side effects are there for Reductil?”*. Whilst some women did respond with comments such as *“Have tried Reductil. It made me very hyperactive and unable to sleep so I stopped taking it after 2 weeks”*, this was very limited. Women on this forum generally took the stance that UWL drugs should not be used and therefore discussion of their use was not encouraged. Some did share motivations for using UWL drugs such as *“my daughter is getting married in august so I have been trying to lose weight. Is anyone taking ACOMPLIA? I have heard a lot about it and would like to hear more.”* but again threads of this nature did not elicit a large response from others on the forum.

Women were very open on the forum, discussing their own experiences as well as those in their personal life, for example *"As a result I have lost about half a stone. My partner has also lost over a stone"*. Women also frequently turned to the forum to ask for advice such as *"Does anybody have experience of these two drugs or any wisdom to impart?"*, as well as experiences of using weight loss drugs, *"I'd be very interested to hear from anybody who has on them longer and can report on weight loss."*. Women also shared their experiences of using UWL drugs and discussed using the drugs in relation to their weight loss.

#### 4.4.3 Supportive community

Overall, the forum was a supportive community. However, there was not the sense of familiarity as on other forums. Whilst members were courteous to each other, many of those posting had low post counts indicating that they were not regular forum users. Despite this, they were welcoming to new members with comments such as *"hiya [forum member] and welcome"*, wished members well in their weight loss, for example *"Good luck"* and were grateful for responses to their posts saying *"Thanks for all your kind advice"*. There were some instances where members eluded to keeping in touch with others on the forum, e.g. *"thank you for the answers. I just wanted confirmation before I started changing my diet. I will keep you informed of my progress"* but this was limited.

#### 4.4.4 Impact of forum on members attitudes or behaviour

The impact of forum member's posts on others was not as evident on this forum as others. This is likely due to lower response numbers on threads with women seemingly not wanting to discuss UWL drugs. Compared to e.g. Forum A that had an average of approximately 250 posts per thread, this forum only had an average of six posts. This indicates that women on this forum did not often answer others questions and when they did it was rare for those members to return to the forum to report their progress.

#### 4.5 Forum D: Advice seekers

Forum D is an entertainment forum covering television, films, gaming, sport as well as general discussion topics. The number of members is not given by this forum however, there are over 1 million threads. There were 14 relevant UWL drug related threads that were all about sibutramine. There were no explicit rules banning the discussion of UWL

drugs, however there are rules banning the discussion of illegal behaviour. No response was received from forum moderators to take part in an interview.

#### 4.5.1 Attitudes towards UWL drugs

Not being a forum dedicated to weight loss or related area, most of the discussion related to UWL drugs took place within the 'seeking advice' threads. Much of the discussion was women querying whether UWL drugs work and how safe they are to use with thread titles such as *"Do weight loss pills work and is it safe if I took them? :S"* and *"how safe are diet pills?"*. Attitudes towards UWL drugs and those using UWL drugs were mixed. Some women were very supportive towards others and showed concern over their UWL drug use and potential side effects. Many women however, viewed the administration of UWL drugs as something that should only be carried out by health care professionals as they would be able to offer the best advice arguing *"I wouldn't recommend taking these pills without medical back up however - just to make sure you are getting the right guidance from a qualified person"*. Other women were also extremely against the idea of purchasing UWL drugs online and felt that these drugs were only for someone who was clinically obese and should only be prescribed saying *"diet pills are for obesity, not for losing a size or two. A size 14 is absolutely fine. I assume the reason for you getting them online, is that NO respectable doctor would prescribe them to you"*.

#### 4.5.2 Sharing of experiences

Women were generally very open about sharing motivations for using UWL drugs, with comments on the forum such as *"Although I did manage to lose nearly 2 stones in a year, since Christmas it has been steadily creeping back on again"*, experiences of using, for example *"I am currently back taking Reductil, I have lost 13lbs in a couple of weeks but I have a lot of weight to lose"* and also used the forum to source information, asking *"Does anyone have any success stories with diet pills?"*. Women also spoke about the temptations of UWL drugs arguing that feeling unhappy with how they looked and seeing what they perceived as successful before and after pictures did encourage them to consider using, for example *"It is VERY hard to lose weight when you're obese, obviously self-esteem is very low, and you need encouragement. So a quick fix is very attractive, especially when packaged with rather exaggerated before and after pictures"*. Whilst threads discussing UWL drugs, such as *"But has anyone had success stories with diet pills?"* were fairly popular with an average of 33 responses on each thread, often women did not seem to want to

specifically discuss these drugs in any detail. In most cases, however, it was unclear whether this was due to a lack of knowledge about them or because they did not approve of them. Instead, women often just posted general statements around how no weight loss drugs worked, for example *"All these pills are good for is a kick up the arse reminder that there is only one way to lose weight - healthy eating and exercise"*.

#### 4.5.3 Supportive community

On this forum, many of the women posting had been members for a long time and had posted thousands of comments. However, perhaps in part due to this being an entertainment forum with many different forums and sub-forums that people posted on there did not seem to be the same level of familiarity between forum members as was evident on some other forums. Information and discussion generally tended to be more informative rather than personal. Despite this, members were supportive and occasionally there were requests for others to keep them updated with e.g. weight loss progress, *"Keep us updated with your progress. We will all try and encourage you"*. However, there were instances where women on the forum were judgemental about the use of UWL drugs with comments such as *"I'll give you 2 weeks tops at doing that before you're back to stuffing your face with pizzas and pies and lounging around on the sofa all day"* and *"I find it crazy that someone who is intelligent enough to be at University as a medical student even needs ask something like this"* illustrating this. In these cases it led to the original poster either not responding or becoming frustrated with those members saying *"Have you always been so judgemental or did you have to practice?"*. For more general weight loss discussion however, members were generally supportive giving tips and motivational advice such as *"well done on losing the 7lbs [forum member]!"*.

#### 4.5.4 Impact of forum on members attitudes or behaviour

Discussion concerning weight loss methods such as diet and exercise were generally very positively received by women on the forum, perhaps because this information was given in a non-judgemental way. There were also some instances where women's negative attitudes towards UWL drugs led others to decide against using them as seen in this instance, *"Thanks guys for the info. Well I read some of the replies here it makes me not want to get a weight loss pill"*. However, in many cases the perceived judgemental responses to those asking about UWL drugs such as *"Stop being lazy and looking for some fast track way to lose weight, look into what foods you shouldn't be eating and what foods*

*you should be eating and start exercising*” often resulted in the original poster not posting again or questioning the attitudes of the members with responses such as *“How rude”*.

#### 4.6 Forum E: Non-judgemental novices

Forum E is a weight loss forum covering weight loss, fitness, health and support and tracking calories. No information is provided on member numbers or the number of threads. There was not a focus on this forum on UWL drugs nor was there an explicit ban on discussing them. There were 50 relevant threads however, which included UWL drug discussion. The majority discussed sibutramine, however discussion covering DNP and rimonabant was also evident. There are no explicit rules banning the discussion of UWL drugs, however there are rules banning the discussion of illegal behaviour. No response was received from forum moderators to take part in an interview.

##### 4.6.1 Attitudes towards UWL drugs

The majority of discussion was from women asking for advice on the efficacy of UWL drugs and which drugs they should take, e.g. *“Has anyone taken Meridia?”* and *“So..are there any diet pills that actually work?”*. Whilst some felt that UWL drugs were not a viable option as seen here *“It sounds like diet pills probably aren't a good idea for you”*, most others expressed most positive opinions, for example *“I disagree. There's plenty that works”*. Others also argued that specific drugs such as DNP were scientifically proven to work and were effective weight loss drugs arguing *“I was talking about DNP, thyroid drugs and harsh stimulants. They actually work and are scientifically proven”*. There also appeared to be some frustration from women due to the drugs that they felt worked having been banned and feeling that weight loss products that were available over the counter were not effective e.g. *“Yeah, everything that has ever been proven to work has been banned by the FDA. Well, except creatine, but that's not for weight loss. So if you are getting anything over the counter, it doesn't work”*. Furthermore, some felt that these drugs being banned was dangerous as some people would still be willing to use them. In these cases women argued that *“I think doctors are doing more harm than good by not considering that people may take things into their own hands”*.

##### 4.6.2 Sharing of experiences

Forum E was used by many women to share their own experiences and knowledge of UWL drugs, for example *“I think Reductil is wonderful, I don't think about food any more!”*. Members were open about their use of UWL drugs, even stating that they had tried many

different ones saying *"I've taken them all, hun. ALL."* Women also shared their motivations for using UWL drugs, e.g. *"I started trying diet pills, not for a magic fix, but because I would get stuck with my weight loss every five pounds or so. I just wanted something to boost my metabolism a little bit"*. Others used the forum in order to hear others experiences, *"Anybody know anything about DNP, if so holler. Ive heard that if taken correctly you can lose a significant amount of weight in a short time"* and seemed genuinely interested in hearing what others had to say stating that *"I'd be interested in seeing what other people have for suggestions"*. There was also a lot of discussion on this forum around the side effects of using UWL drugs, motivations for use and both positive and negative experiences of use. Forum E was relatively supportive with some members feeling those who used UWL drugs should not be judged or treated in a negative manner arguing that *"My beef is when others are belittled if they do take them b/c for me and it seems for you too, they are a life saver"*. There were some instances when women felt their questions were not being answered or ignored saying *"Well, ive had no replies for this post so I guess either nobody has heard of Reductil (Sibutramine), dont care about it, or im typing with invisible ink. Lol"*. Whilst on other forums it appeared this was due to a lack of interest or due to negative perceptions of UWL drugs, in this case, it appeared to be due to a lack of knowledge from other members on the forum. This was evident through comments such as *"Sorry, never heard of it! Good luck with it though"*. Whilst some members did respond with their experiences of using, it was clear this forum did not have the same 'expert members' as was evident on other forums with members stating they were not aware of the drug or to *"google it"*.

#### 4.6.3 Supportive community

Whilst this forum generally saw women being polite to each other, there was not a sense of familiarity between members. Whilst, it is not possible to ascertain the size of this forum, the average number of responses to each thread was 17 posts indicating less engagement to posters questions or advice seeking as seen on other forums. Comments like *"Sorry if this has been posted before. I didnt have time to check through all of the previous posts"* suggests that members dip in and out of the forum rather than being regular users of the forum. Despite this, members were supportive of each other, wishing each other good luck in their weight loss attempts and empathising with others, *"I'm where you are as well"*.

#### 4.6.4 Impact of forums on members attitudes or behaviours

Members on this forum appeared keen to garner advice, experiences and suggestions from others saying *"I'd be interested in seeing what other people have for suggestions"* suggesting an openness to taking advice from other forum members. There were instances where members seeking advice about a particular drug, e.g. *"Does anybody know anything about this drug...Meridia?"* were later dissuaded from using it after others posted negative attitudes towards UWL drugs or negative experiences following their use such as *"Thank you very much for the responses!! I defiantly WILL NOT get on the drug!"*. There were also others who received conflicting information both on whether they should use a UWL drug at all and also what they should use leading them to feel confused about their different options.

#### 4.7 Forum F: The hardliners

Forum F is a fitness forum covering weight loss, diet, exercise, food and nutrition. No information is given on member numbers or the number of threads. Posts seen to be promoting the use of illegal substances or controversial weight loss methods were banned. However, there were 120 relevant threads, which included UWL drug discussion. Each UWL drug was discussed with most focus on DNP and sibutramine and a small number of threads discussing rimonabant. A forum moderator (Moderator A) was recruited to interview from Forum F.

##### 4.7.1 Attitudes towards UWL drugs

Many of the threads came from women asking for advice on which drugs would work or asking whether they should consider using them, *"FAT BURNERS YAY OR NAY?"*. Attitudes towards the use of UWL drugs were fairly negative with women saying *"If weight loss pills worked there'd be no fat people, would there?"*. This forum advocates healthy eating and exercising and does not promote faddy diets or unconventional weight loss methods and this attitude was evident in with many women arguing that any form of diet pill or fat burner was a scam, for example *"It burns your money, not your fat, unfortunately"* costly, *"The only thing which will get lighter is your wallet"* and instead promoting what they considered to be a healthy weight loss strategy, essentially exercise and diet. Many argued that UWL drugs were just not effective saying *"Just avoid them. There is no such thing as a pill which burns fat"*. UWL drugs were generally considered the domain of bodybuilders only and the average person who wanted to improve fitness or lose weight should not follow advice from that group saying, *"a high-level or pro bodybuilder is the worst possible person*

*for the average person to take advice from*". Often those women who wished to discuss UWL drugs were shouted down by other members, arguing that this community was not a place for discussion of this nature with comments such as *"You're not going to find support on this site for diet aides"*. This led some to feel that those who were criticised for using weight loss products were being unfairly criticised and judged arguing that *"This site has become less about support and more about being self righteous"*.

#### 4.7.2 Sharing of experiences

There were many women who shared experiences of using UWL drugs with thread titles such as *"My negative experience with weight loss and fat burner pills"* as well as their motivations for use, for example *"I have the last few pounds which are sticking around"*. Women appeared to want to use the forum to seek advice from those they considered experts, e.g. *"Weight loss pills that help? Anyone experienced pls look"* as well as to learn about others experiences, *"I guess everyone's body is different. That is why I wanted to get people's opinions and experiences"* and to gain knowledge of UWL drug side effects, for example *"is the side effect a long term one?"*. However, questions of this nature were not well received by other users with responses such as *"You can't be serious?"* and members strongly advising against use with comments such as *"Read the article-these pills contained pesticide-NOT meant for human consumption! do NOT buy/take medications on the Internet and/or street"*. In some cases, when the experiences of members did not tally with other members there were a lot of negative responses to this which appeared to leave the person posting frustrated. This was seen in comments such as *"I knew this would happen. I was just trying to help you with what my own experience has been as well as the advice of the professional nutritionists, trainers and bodybuilders in my life. To each his own!"*

#### 4.7.3 Supportive community

Women were often supportive to each other and there was a level of familiarity between members, e.g. *"Vote for all this, plus what the lovely [forum member] suggested. You can do this, OP!"*. This familiarity was evident in members who had high numbers of posts and appeared to have been members of the forum for a long time. However for those who were newer or specifically asking questions about UWL drugs there was a lot of negativity and judgemental responses. Whilst in some cases women appeared to just want to steer others away from these drugs and promote a healthier weight loss strategy arguing *"None of the products you've mentioned are backed by clinical study that show any significant*



*help that a good diet does”, others were far more critical believing motivations for using UWL drugs to be due to laziness and stating “People are way too damned afraid of exercise these days.”. Often this led to either the person asking the question to not respond or to become defensive and annoyed by other forum members. This appeared to be a frequent occurrence on this forum with one forum member noting “95% of the time you get a thread like this, you get a similar barrage of messages from people telling you it's a huge waste of money. The OP usually has nothing of it, says that she's only looking for people who have tried it and will only accept positive, supportive advice for the pills.”. However, some longer term members did not appear to appreciate this approach instead arguing that the forum should be about educating and advice rather than being judgemental, “So i'm not going to jump on the bandwagon and make out like you're stupid because you're not - so please don't think you asked a stupid question up there. This is what this forum is for - advice and support and educating”.*

#### 4.7.4 Impact of forum on members attitudes or behaviour

Whilst often negative responses concerning UWL drugs led to a lack of engagement with the forum there were instances when members took advice on board and valued hearing about others experiences as seen here *“Thanks, it's nice to hear other people's opinions and experiences”*. In one thread a member asked about different UWL drugs and received a lot of negative comments with people arguing that if she had to ask what they were then she should not be using them, *“What you're saying isn't true, Clen, T3, DNP, and other chemicals that if you have to ask what they are, you'd probably kill yourself trying to use them”*. In this instance the member appeared to take this advice on board saying *“Wow!ok.ok.i will not take them then!i really appreciate everyone's advice and I will take it”* and others appeared surprised by this *“Did the OP just accept and is responding positively to all the mean people in this thread?”*. One issue which was mentioned on this forum more so than others was whether forums were really the best place to gain advice on drugs of this nature with some members arguing that health care professional would be a more appropriate place to seek advice. In these cases it was argued *“before you take anything, talk to a health care professional. Do not rely on Internet postings from strangers to guide you on what to put into your body.”*

#### 4.8 Forum G: The weight loss journey mums

Forum G is a parenting forum covering children and parenting as well as a range of miscellaneous topics. Whilst UWL drugs are not the focus of this forum, 20 relevant threads which included UWL drug discussion were found. Forum G is a large forum with over 2 million members and over 1 million threads. Forum members are advised against discussing illegal activities. All three UWL drugs were discussed on this forum, however sibutramine was given the most focus. Forum moderators were contacted but did not wish to take part citing a lack of interest in the research.

##### 4.8.1 Attitudes towards UWL drugs

Women on forum G often used the forum to seek advice about general weight loss drugs and products, for example *"I need advice on slimming tabs"*. Whilst those considering UWL drugs were not judged negatively, the advice was often to steer clear of them with comments such as *"Do not buy reductil. It was withdrawn in the UK and in other places as it can cause renal failure, heart attacks and strokes"*. Women also discussed there being no magic pill saying *"[forum member name] I hate to be the one to tell you this, but if you want to look good there is no real quick fix"* and potential side effects or risks of using, e.g. *"I wouldn't recommend diet pills as you don't know what they'll do to your body."*. Discussion of DNP was limited to discussing media stories of those who had died following its use with many on the forum displaying surprise and shock that such a drug existed, for example *"My god...I didn't know that such pills were so readily available"*. However, there were many women who reported positive experiences of UWL drugs and subsequently advocated their use saying *"my advice is reductil. I'm on it for only a week and I can see the result. I'm -1kg, no cravings, no appetite..."*. There were also others who had heard about UWL drugs from family or friends and were looking for advice regarding these drugs from forum members asking *"Reductil. Has anyone tried the above? I am thinking of buying some online a friend at work is taking them and seem to be helping her to lose weight"*. Others also specifically mentioned online sources they had used to purchase UWL drugs but still used the forum to get advice about how to take them asking *"today I've received my reductil pills from [name of website] and I wanna start them asap. Do I take Reductil in the morning or in the evening?"*.

##### 4.8.2 Sharing of experiences

Women often spoke of gaining weight and the associated negative feelings that came with this, e.g. *"rapidly putting on weight. I'm depressed and the doctors won't listen!"* as well

as sharing reasons for why they wished to lose weight saying *"With this lovely warm weather approaching, I am desperate to lose some weight!"*. Women were generally very supportive of each other *"good luck with it just keep positive"* often sharing diet and exercise tips and motivating each other with many using the forum to log their weight loss progress, for example *"I am starting again today. I want to lose the 5lb I have put on so keep posting how you're getting on. We can motivate each other"*. Women were very open on this forum, sharing their feelings about their weight as well as other aspects of their lives, e.g. *"I'm currently sitting here balling my eyes out... Since having my daughter who is now one I've put on 6 stone. I've gone from a happy size 8 to a 18-20"*. As well as more general weight loss discussion women were open about sharing their UWL drug experiences and making recommendations to other members, for example *"I'm losing weight with Acomplia...I bought a supply of these pills online and started them right away. I take them for about 6 weeks and find them very effective at suppressing my appetite, speeding up my metabolism and losing weight fast"*. Women used the forum to gain information on UWL drugs as well as sharing their desperation in finding a solution which would help them to lose weight, *"Anybody know of any fast weight loss or slimming pills? I'm desperate to lose weight, my baby is 11 weeks old tomorrow"*. Finally, women kept others up to date on their weight loss journey and there was often a sense of a collective effort to lose weight as seen here *"I've lost half a stone so far, have you noticed any difference yet?"*.

#### 4.8.3 Supportive community

There was a real sense of community on this forum. Women referred to each other by name, even when their forum user name did not include their real name, e.g. *"awwwwww [forum member name] we can stay positive together"* and frequently asked after each other. Forum members were welcoming to new members, taking time to ask their questions and there was not a 'newbie'/established forum member divide as was clear on other forums. Women frequently exchanged pleasantries, asking after each other and wishing each other luck with their weight loss, for example *"wishing you luck and a nice day!"*. Frequently there was a sense of the women on this forum belonging as a group with shared understanding and experiences as seen here, *"i know how you feel"*. Due to this women were very open about sharing personal elements of their life such as having had a miscarriage and issues with confidence, for example *"Anyone know of any good appetite*

*suppressants or diet pills ? Still carrying extra weight after a miscarriage. lost so much confidence.”.*

#### 4.8.4 Impact of forum on members attitudes or behaviour

Women shared their experiences of using UWL drugs, however there was often a reluctance to advise others of what they were using as they did not want to put others at risk of side effects. This may be due to the close relationship they appeared to have. In these instances, women spoke of the risks of using these drugs but argued that they only did so because they were desperate, saying *“I know of pills that work...Every so often I get depressed about my weight and take them, then get palpitations, dizziness, etc and realise how dangerous they are...Saying that I've just ordered more cos I'm that desperate”* or argued that they did not want the responsibility of putting others at risk of harm saying *“These are serious medicines and I would not be responsible for anyone taking them and becoming ill.”*. In the instances where members did advise on what UWL drugs to take other members responded positively saying *“no haven't heard of them but tell me more”* and wanted forum members to give them information about these drugs suggesting an element of trust between members. Prominent on this forum was the notion of women risking their health taking UWL drugs when they were mothers and had children to look after with many members advising against UWL drugs in these cases. In one instance a woman who had asked about UWL drugs and was advised against them due to risks opted instead to use a herbal weight loss product as she had *“4 beautiful daughters to look after”*.

#### 4.9 Forum H: The caregivers

Forum H is a weight loss forum covering slimming clubs, diet plans, fitness and weight loss diaries. Whilst UWL drugs are not the focus of this forum, 47 relevant threads which included UWL drug discussion were found. This forum is not as large as other forums included in this study however, it still has over 100,000 members and over 300,000 threads. There are no specific rules against posting about illicit behaviour or drugs. The focus on this forum was on the appetite suppressants sibutramine and rimonabant. Forum H moderators were contacted with details of the study but did not wish to take part in the research just stating no to all contact.

##### 4.9.1 Attitudes towards UWL drugs

There were several threads on this forum from women asking others for advice on whether to use UWL drugs, for other people's experiences of using these drugs, for example *“Have*

*you ever tried Acomplia, what did you think?" asking for support, "Reductil, can anyone offer help or support?", information on side effects such as "Having heard of the side effects of Rimonabant (Acomplia) recently I am scared of taking any more pills. (Anyone used/using this?)" and information on prices and where to purchase. Attitudes towards UWL drugs were mixed. Some felt that purchasing any drug online was a risk as you could not be sure of the products contents saying "And you're never quite sure what you're going to get, are you?", whilst others discussed their own negative experiences of using them, for example "As somebody that used Reductil I would say Don't Use Tablets... They're no good for you and if you do weight watchers properly you really won't need them". However, other women felt that there was a risk with taking any medicine and UWL drugs were no more likely to produce negative side effects than using any other drugs: "I agree they sound dangerous but have you ever read the warnings of Ibuprofen?".*

#### 4.9.2 Sharing of experiences

Forum H was frequently used by women to share experiences of weight loss and UWL drugs but also a range of other issues they were experiencing such as illness, *"I am off work sick. Had an operation that led to a more serious medical thing"*. As a weight loss forum, much of the discussion was concerned with member's weight loss journeys and women on the forum were extremely open about negative experiences and feelings associated with their weight and their use of UWL drugs. They spoke of such issues as binge eating saying *"I'm the same as you, I binge eat and have awful trouble stop myself or knowing when to stop"*, as well as discussing their use of UWL drugs; *"I started reductil yesterday. Does anybody have any advice on this method of weight loss. I am in desperate need"*. Feelings of desperation was a common theme with many women making such comments as *"i was desperate to get reductil. I even thought about buying it from these websites!"* and discussing what they felt to be extreme measures to help with their weight loss, for example *"Stupidly I got some Rimonabant online from India"*. Many also discussed UWL drugs being their last chance at weight loss. Women on the forum seemed interested in each other's weight loss progress saying *"Yay, so happy you updated us, I was wondering how you were getting on! Congratulations on your weight loss!"* and regularly sharing updates with each other, for example *"I can say that after only 8 days I lost 4 pounds which is an achievement for me as i cant usually lose anything"*. Women discussed and shared personal information including levels of emotional distress concerning their weight such

as *“Rather not be here than be this fat thing”* suggesting feelings of comfortableness posting on this forum.

#### 4.9.3 Supportive community

Forum H is a supportive online community. Women on the forum were very caring towards each other and welcoming to new members, *“Aww wow everyone's so nice here thank you for being so welcoming”*. There was also a lack of judgement on this forum around the use of UWL drugs as seen here *“I don't think I'd want to try them, but if it helps you and any other dieters on here, then good luck to you”*. They were congratulatory of others successes saying *“congratulations on losing over 5 stones of unwanted fat, that is a great achievement”* as well as supportive when members needed help and advice, for example *“I'm glad that shared your feelings on the forum, it gives us the chance to help you as and where we can”*. Furthermore, there was a definite sense of friendship and community between women with much referral to each other by name, e.g. *“Which website did you get them off [forum name member]?”* and shared experiences and feelings, *“Don't ever feel like you are the only person feeling like this. Believe me, you're not”*. Those women who were established members offered guidance to new members and wanted to help support them. Due to the supportive nature of this forum, in some cases, women reported having being recommended the forum by other people stating that *“My friend told me about this forum, about how supportive you all are to her mum and I thought I would give it a go”*.

#### 4.9.4 Impact of forum on members attitudes or behaviour

Due to the supportive nature of this forum, women were receptive to advice received from other members. When women advised against UWL drug use, they did so in a non-judgemental manner such as *“please be careful with these tablets, at the end of the day its your choice, but just be careful, please”* and appeared to care about other forum members rather than judging them. Similarly, due to women being so open about sharing their own experiences, for example *“They sound awful, don't use them. I ended up a wreck after taking Reductil, it isn't worth it”*, meant that others were more likely to pay attention to their advice. Women seemed to be grateful to the forum and were pleased to have somewhere where they could discuss these issues stating *“Thanks for providing a forum like this - I'm hoping it'll keep me on the straight and narrow!”*. Furthermore, there were many instances where women appeared to take others advice, either in considering the

side effects or risks of using a UWL drug, for example *"Oh I feel so worried after reading that.... I'm a worrier! So this will be on my mind all day now!"* or in changing their mind about whether to use a weight loss drug at all, *"thank you for sharing your story, it's making me realise I should forget using them"*.

#### 4.10 Forum I: The weight loss drug promoters

Forum I is a forum targeted at women covering health, fitness, parenting and beauty. Whilst UWL drugs are not the focus of this forum, 26 relevant threads which included UWL drug discussion were found. No information is provided on member numbers of the number of threads. There was not a focus on this forum on UWL drugs nor was there an explicit ban on discussing them. Much discussion on this forum centred around the appetite suppressants sibutramine and rimonabant. No response was received from forum moderators to take part in an interview.

##### 4.10.1 Attitudes towards UWL drugs

This forum generally consisted of those looking for advice on what UWL drugs to use, those sharing experiences and those promoting the sale of drugs. This forum had much discussion from women looking to lose weight and who were looking for alternatives to diet or exercise, for example *"How to reduce your tummy without exercise?"*. There were many instances of members sharing their experiences of using UWL drugs such as *"Reductil pill helped me"*. Attitudes towards UWL drugs on this forum were very positive with most members citing positive experiences, e.g. *"The only thing which really helped me lose weight were Reductil slimming pills which I bought on [name of website]...26kg off in just four months"* and were keen to make recommendations to other users saying *"Reductil is one of the few things that actually work for me...I recommend this to anyone who is serious about getting into shape and becoming healthy again"*. Many used the forum to gain advice on which UWL drugs to use, e.g. *"Diet pills-advice needed"*. One element which was not as common on other forums was the promotion of UWL drugs, both in terms of people advocating them, *"Slimming pills that work! (Sibutramine pills in the uk)"* and promoting the sale of them, e.g. *"Sibutramine for sale"*. In some cases, women made specific recommendations for where UWL drugs could be purchased from such as *"I know Reductil might not be for everyone, but it definitely worked for me. Here is the email address of the lady I got them from [email address]"*. It was unclear however, whether women on this

forum were merely citing positive experiences of UWL drugs in order to promote the sale of the drugs.

#### 4.10.2 Sharing of experiences

Forum I was often used by women to share their experiences of weight gain, their weight loss journey and UWL drug use. Women were very open about sharing their experiences saying *"I have gained 9 pounds. I feel ashamed and don't really want to go out"* and motivations for using UWL drugs, for example *"I want to be back in my 'thin' clothes from last year"*. In particular, members shared negative feelings associated with their weight such as being repelled by their image making such comments as *"i looked at myself in the mirror and saw a cow like ten lbs overweight"* and how this had impacted upon their mental health, for example *"I was getting so depressed staying in bed in the mornings cuz i was so disgusted to look at myself"*. Women also regularly posted updates about their weight loss, e.g. *"it's been a few months now and so I thought I would update you. I too have reached my goal. I've lost a total of 2.5stone"*. Finally, women turned to this forum to seek advice, *"any one have any ideas?? i just need real good motivation but ?? where from i cant motivate myself long enough!"* and help from others.

#### 4.10.3 Supportive community

The forums were also very supportive with women sharing experiences of the difficulties in losing weight and supporting each other in their weight loss attempts; *"You are definitely NOT the only one who can't stick to a diet. LOL"*. Women were keen to hear about others experiences asking *"Would you be willing to talk more about your weight loss and diet pills. I would really interested in them"* and there was a feeling that the women on this forum felt they were all going through the same thing, for example *"You are definitely NOT the only one"* and because of this understood how others were feeling: *"Hi Hun I completely understand where you are coming from, I was in the same position as you"*. Members referred to each other often by name (even when their name was not part of their username), e.g. *"Thanks for all the info on this thread [Name].."* *"Its been a while since u posted, hows the weight loss going?"*. There was a focus on mutual support on the forum , for example *"I love coming on these forums and reading other peoples stories on weight loss. It's so good that we can share ideas and tips"*.



#### 4.10.4 Impact of forum on members attitudes or behaviour

There was some evidence of Forum I having an impact upon members. Many women were keen to share their stories *"I know there are alot of you out there struggling with your weight and I know how unhappy it can make you - i've been there myself and I know how miserable it can make you. Don't give it trying!"* and many being keen to hear others stories asking *"does anyone else have this problem, or anyone have any ideas how i can get out of this rut!!!!"*. In particular, women seemed to take on board advice regarding where to purchase UWL drugs from: *"Thank you for the tip of where to purchase these safely"*. Similarly advice regarding consideration of fake UWL drugs was also seemingly taken on board by women with comments such as *"anyway u are underling my worries: buying through the net...I've heard about fakes... how did you buy slimming pills through the net in a safe way?"*. This forum had a very positive attitude towards UWL drugs so whilst commenting regarding which drugs to take and where to purchase them from did appear to be considered by members, comments regarding the negative aspects of UWL drugs were ignored. Comments highlighting UWL drugs not solving the problem of e.g. overeating, *"In my opinion diet pills don't really solve the problem!"* or negative effects they may have on the body such as *"Pills are chemicals..so I do not really feel they are good for the body"* were generally ignored and not responded to on this forum.

#### 4.11 Forum J: The self-righteous experts

Forum J is an online discussion forum on which there is a DNP specific sub-forum. No sub-forums exist on this forum for sibutramine or rimonabant therefore all discussion analysed here is DNP related. There was no way of identifying female forum posters from forum profiles on this thread, therefore only threads where the original poster stated they were female were included. Thirty-one threads were included from this forum. This is a small forum that has over 1,000 members. There was no way of identifying the number of threads on this forum. Forum rules stated that members should be respectful to other users and should not post personal information. Discussion on where to purchase DNP was permitted but should be posted within a specific thread dedicated to this subject. Two moderators originally agreed to take part from this forum however one did not respond to subsequent emails. One forum moderator was recruited to take part in an interview.

##### 4.11.1 Attitudes towards UWL drugs

As a forum specifically set up for the discussion of DNP, many of the women commeting were already using DNP and as such attitudes towards DNP were generally positive. Many

of the threads related to information on progress reports and dosing information such as *"First Time DNP Log. I'm female, 5'7" and 155lbs"*. However, there were also many women using the forum to ask questions about DNP including whether it was the right drug for them, for example *"Is dnp the right choice for me? I'm a 25 year old woman who is obese"*, side effects of use, *"Have any women had spotting whilst using DNP?"* and where to purchase, e.g. *"I'm a 21 year old women looking for reliable source in the UK"*. The vast majority of discussion on this forum appeared to be from men, and women often appeared grateful to other women who were posting their experiences commenting *"Online we need more DNP experiences by women so hello there"*. However, perhaps in part due to this forum being so male focused and DNP seen as a male or experts drug, some women felt they were unfairly judged for using DNP saying *"On this forum, there is a huge double standard"*. Additionally there was much judgement if the user was considered to be a novice with comments such as *"RIP OP"* and those users being advising against using, for example *"please don't use DNP"*. One new female forum user who asked about receiving advice, *"Would also appreciate any advice for first timers"* received far fewer responses than those who posted regularly and who appeared to have a lot more experience using DNP and were considered *"DNP veterans"*. Similarly female users often were judged for using DNP users, for example *"I saw 2 men discussing who were obese and using DNP to lose weight. Nobody had a go at them"*. Women asking for advice were often frequently ignored or responded to in a very judgemental manner, with comments such as *"You sound like a young inexperienced woman trying to lose weight the easy way. This is not for you"*. There were also many men on this forum asking for advice on behalf of their wife or girlfriend *"If she could show me that she can attend the gym regularly, I would however allow her to take 200mg"*, Phrasing from this quote such as *"allow"* and *"show me"* suggests that some male DNP users do consider DNP as ultimately a drug for men. Furthermore, comments on this forum such as *"I don't think a lot of women use dnp, they're more bothered about bullshit ketone supplements...or other ineffective money sinking crap"* suggests that members on this forum did not consider females as serious UWL drug users, instead expecting them to stick to herbal products.

#### 4.11.2 Sharing of experiences

On this forum, although in small numbers, women were very open about sharing their use of DNP and posted logs of their dosage and weight loss, for example *"I've lost 15lbs in 19 days of using, Hoping to use again if I can maintain or continue to lose"* as well as their

physical statistics, *"Taking 250mg a day for 21 days. I'm female and fat"*. Whilst some did share information concerning more personal elements such as motivations for weight loss such as *"I had depression for upwards of a year due to my job, and during this time I gained about 50 pounds"*, these were in the minority. There was very little evidence of sharing of personal experiences and instead this forum was instead mainly used for the sharing of practical experiences of using DNP such as weight loss, dosages, side effects and other drugs used. Advice given was often very prescriptive but as previously mentioned depending on the forum member it could also be very judgemental.

#### 4.11.3 Supportive community

Overall, this community was not supportive in the same way as other forums were. There was not a sense of shared experiences and members did not appear to know each other as they did on other forums. However, there were pockets of support of this forum and this was overwhelmingly the groups who had been judged negatively by others on the forums, most often for being considered inexperienced users or for being female users of DNP. In these instances, members requested others to share their experiences *"You're like me, I've been wondering about trying dnp. Let me know if you end up taking it and how you get on!"*, were supportive of each other, e.g. *"Can't wait to see your results!"*, shared experiences as seen here *"I hope this [DNP review] is useful to everyone!"* and were grateful for those sharing their experiences, *"Exceedingly helpful, thanks for the insight!"*. For those members who were considered the experienced DNP there were also some indications of those groups being supportive and being concerned for new users harming themselves, for example *"I'm giving you a hard time because I'm worried.. you make a mistake and this could kill you. why mess with fire if you don't understand the risks"*. This was however, considered to be in the minority as seen here *"Read this expecting to see dog pile on the OP, but pleasantly surprised to read this much helpful and well intentioned advice."*

#### 4.11.4 Impact of forum on members attitudes or behaviour

Whether the forum impacted on others was influenced by how judgemental those giving the information were perceived. Comments such as *"She is and always will be a victim, who won't take responsibility for her actions and subsequent results"* were either ignored or caused friction within the forum, for example *"You're a real asshole"*. However, there were indications that some members views were considered important than others, e.g.

*"I hoped that you would respond"* and due to the lack of information available for women, posts made by women often seemed to be taken on board *"I'm a women and thank you*

#### **Reflexive pit stop - Online research as a snapshot**

Whilst DNP, sibutramine and rimonabant are not new drugs, their diffusion into online markets and use by those outside of bodybuilding communities is a relatively new phenomenon. The fast changing nature of this market means that the research presented here can only present a snapshot and is not indicative of all UWL drug use by all users. Similarly, whilst a systematic search strategy was employed in order to try and capture as many different UWL drug users as possible, the popularity and discussion within online communities will also change and adapt over time. Searches conducted on different days for online forums where UWL drug discussion is taking place will inevitably find different communities and different users.

Data searches for the online forum analysis were conducted during late 2014 and early 2015 and the majority of forums were primarily focused on bodybuilding, weight and general drug use. However, searches conducted at the end of the research found discussion relating to UWL drugs on proana and eating disorder forums. As these forums did not present during initial searches, those using UWL drugs and suffering with eating disorders have not been represented within this research. Examination of these forums suggests that whilst there was some discussion relating to UWL drugs at the time I was conducting my searches this was limited. Much of the discussion related to the death of Eloise Parry, a young girl who died after taking DNP in April 2015 and who had been identified as suffering with an eating disorder. It appeared that Eloise's death triggered much of the discussion relating to UWL drugs on these particular communities with many threads being started following her death.

Whilst it is not within the remit of this research to fully explore the discussion on these forums, cursory examination has identified some worrying practices. This included extremely underweight women using DNP for several months and at doses, which would be recommended as the maximum dose for male bodybuilders. However, even within these forums which promote the most extreme eating practices, most women warned others over the use of DNP, echoing the opinions of many within this research that its use was synonymous with a trip to the morgue.

The surge of UWL drug discussion on forums which previously had limited discussion illustrates how quickly the market for these re-emerging drugs can change and poses yet another challenge for those researching these communities.

*for sharing this information. It's great to have multiple resources. I've been having trouble figuring out a dose for women".* Furthermore, there was some evidence that some members had impacted on others, *"Great i'll give that a go, thanks!"* particularly with regards to issues like dosage such as *"I would recommend trying 125mg of DNP for at least a few days before you go fully into your cycle"*. However, there was an overwhelming attitude on the forum that some members would never take advice and would use DNP regardless of what others recommended, for example *"I can imagine most people who ask questions about DNP wouldn't be put off when they get replies saying they're not ready for it yet"*.

#### 4.12 Forum comparison

The forums presented in this chapter are varied in nature with differing purposes, users, motivations and types of advice given (Table 11). Furthermore, the way each community views UWL drug use also varies. The overall stance of the forum members appears to be dependent on a number of criteria, in particular which drug is being considered and what is the perceived level of expertise of both the person asking the question and the person answering it. All forums that had a lot of DNP discussion viewed its use as either negative for all or negative for those who were considered to be novice users. For those users considered novices, the judgemental and at times rude manner (particularly seen in Forum A; The in-group bodybuilders and Forum J; The self-righteous experts) in which their questions were answered by other forum members may mean that they became alienated from that forum, which was often seen by the original poster no longer posting on the forum. The lack of follow up on the forum from that UWL drug novice means it is not then possible to know whether they took the advice, ignored the advice or went somewhere else to ask their question. For sibutramine and rimonabant, opinions were more mixed. Those members who when discussing DNP as an experts only drugs, often did not see a place for sibutramine or rimonabant, considering them ineffective. On other forums, there was a mix. In some cases women validated or encouraged use, particularly on Forum E (The non-judgemental novices) and Forum I (The weight loss drug promoters), however in these instances this appeared to be due to a lack of knowledge concerning UWL drugs on Forum E and a desire to sell the drugs on Forum I. Finally, there were the forums which took a hard stance (or were mixed with a group of users taking a hard stance) against all UWL drugs (namely Forum B; the risk averse, Forum C; the overweight and frustrated, Forum D; the advice seekers and Forum F; the hardliners). On these communities, all UWL drugs were frowned upon, for Forum B because of the perceived risks, Forum C due to the fear of using a drug not prescribed by a health care professional and Forum F because users argued that weight loss should only be achieved through diet and exercise. Similar to what is seen in novice led DNP discussion, here users appear frustrated by the forums hard stance, particularly in forum B and F and either do not post on the forum again or become seemingly frustrated by negative responses. The remaining forums, (Forum G; the weight loss journey mums and Forum H; the caregivers) had more mixed responses concerning UWL drug use. Whilst these forums were extremely caring and supportive communities, there was a lack of knowledge about UWL drugs on this forum. Although advice was taken

on board by other women on the forum, the advice given in some instances was not always appropriate.

#### 4.13 Harm reduction

Whilst the findings within this chapter are descriptive in nature, the lack of knowledge about users of UWL drugs as well as the online communities they inhabit warrants this. When considering strategies designed to reduce harm in this user group, consideration needs to be given to the heterogeneity of UWL drug users as what may be effective for one user or community may not for another. Table 11 provides an overview of each forum and it is clear that they are diverse and multifaceted and therefore strategies designed to prevent and reduce harm will need to be also. Strategies which aim to provide basic awareness and evidence-based information and education is recommended for all communities as even within those forums where users considered themselves the experts, there was conflicting and unsubstantiated advice shared. A focus on advice, prevention and education will be particularly useful for forums where advice is readily taken on board or where users have not yet or only recently begun using UWL drugs, such as forums E, D, G H and I.

Alongside this, those who consider themselves to be experienced UWL drug users, as seen on forums A and J may not be easily discouraged from using these drugs. Therefore harm reduction strategies here need to focus on minimising harm from UWL drug use as opposed to reducing or preventing drug use.

This research has also identified key online UWL drug communities such as those using other drugs, women who have recently given birth and those with health conditions such as diabetes. For these forums with a specific user base, harm reduction needs to be targeted. For example for online communities in which members are using other drugs, in particular recreational drugs, information should be provided on the interactions between different drugs. For mothers, harm reduction strategies need to be linked in with health visitors and maternity services and for those with health conditions, those using UWL drugs should be encouraged to divulge use to a health care professional in order to receive advice on any potential contraindications.

Table 11. Overview of forums

Forum	Type	Category	Forum user type	Atmosphere	UWL drugs discussed	UWL drug advice	Impact
<b>A</b>	Large forum discussing bodybuilding, fitness and nutrition	The in-group bodybuilders	Competing bodybuilders. Male focused but with female sub-forum	Supportive and positive for those considered knowledgeable about bodybuilding and UWL drugs	All but predominately DNP	More positive views for those considered experts. UWL drug use, particularly DNP discouraged in novice users.	For those considered experts or long established members advice was shared and received in a positive manner. Potential to alienate new members
<b>B</b>	Large forum discussing a range of illegal drugs	The risk averse	Mixed user base. Those considering using UWL drugs rather than those currently taking	Supportive with a sense of community. Warning off UWL drug use due to fears of harm for those individuals	sibutramine and rimonabant	Negative. UWL drug use frowned on, considered 'not the answer' for weight loss	Whilst members were supportive, responses to posts asking about UWL drugs were often negative. In most cases, the person asking the question did not post again.
<b>C</b>	Large forum aimed at people with Diabetes	The overweight and frustrated	Diabetic, often overweight	Whilst supportive, there was no sense of community. Members seemed to dip in and out of the forum.	sibutramine and rimonabant	Discussion focused on the drugs pre them becoming withdrawn. Limited discussion of use but frustration over no longer being able to access	Not evident. Forum members often did not report on updates and responses to UWL drug questions were limited.
<b>D</b>	Popular entertainment forum	The advice seekers	Mixed user base.	Fragmented forum with differing discussion, users and needs. Informative not personal	sibutramine	Mixed views. Most posts centred on whether to take UWL drugs or what to take. Responses did not appear to be dependent on the type of person asking but opinions of person replying.	Mixed. Posts viewed as non-judgemental were received positively. Some members very negative towards UWL drug user which received hostile and frustrated responses
<b>E</b>	Weight loss, fitness and health forum	The non-judgemental novices	Those looking to improve fitness and lose weight	Functional, lacking familiarity and community of other forums. Limited amount of engagement	All but predominately sibutramine	Mixed views however non-judgemental regardless of attitude towards UWL drugs. Lack of understanding however by members concerning different drug types and side effects	Perhaps due to non-judgemental manner of forum members, advice was well received regardless of whether negative or positive. Mixed opinions sometimes left users confused
<b>F</b>	Fitness forum	The hardliners	Fitness fanatics	Supportive generally. Very negative and judgemental towards UWL drug discussion	All but predominately sibutramine and DNP	Negative. UWL drug use considered not effective or dangerous / for the domain of the expert only	Users asking for UWL drug advice appeared either frightened into not taking them or frustrated by negative responses

<b>G</b>	Large forum aimed at parents	The weight loss journey mums	Mums looking to lose weight, usually post pregnancy	Supportive with a strong sense of community. Unwilling to advise about UWL drug due to concern over other forum members	All but predominately sibutramine	Mixed views. Many cases of forum users sharing their weight loss journey with in some cases UWL drugs being a part of that. Those put off using UWL drugs particularly by the media	There was often a reluctance on the forum to advice due to lack of knowledge or due to fears over other forum members being put at risk. Where advice was given, forum members did appear to take it into account seemingly due to the trusting nature of the forum and long established connections.
<b>H</b>	Weight loss, diet plan and fitness forum	The caregivers	Those looking to lose weight. Those taking part in slimming clubs or formal diet plans	Caring and welcoming. Non-judgemental to UWL drug questions and supportive to new members	sibutramine and rimonabant	Mixed views. Negative views not concerned with specifics of UWL drugs but more generally concerned about taking non-prescribed drugs or drugs sold online	Members were receptive to advice given causing them to consider their UWL drug use or not using them at all
<b>I</b>	Health, fitness, parenting and beauty forum. Targeted at women	The weight loss drug promoters	Women	Real sense of 'knowing each other'. Supportive with long established online relationships	sibutramine and rimonabant	Positive. Mix of people positive experiences of using UWL drugs as well as those promoting the sale of the drugs	Positive experiences or discussion taken on board. Negative discussion relating to UWL drug ignored
<b>J</b>	Small general forum, DNP specific sub-forum	The self-righteous experts	Bodybuilders, those interested in losing weight	Lack of community. Strong hierarchy of Judgemental towards those considered novices or new on the forum	DNP	Positive towards those deemed experts. Negative towards those considered novices or women	Positive when advice given was advocating UWL drug use or was given from a respected forum member. Female members and those considered novices seemingly frustrated at judgemental responses



#### 4.14 Chapter summary

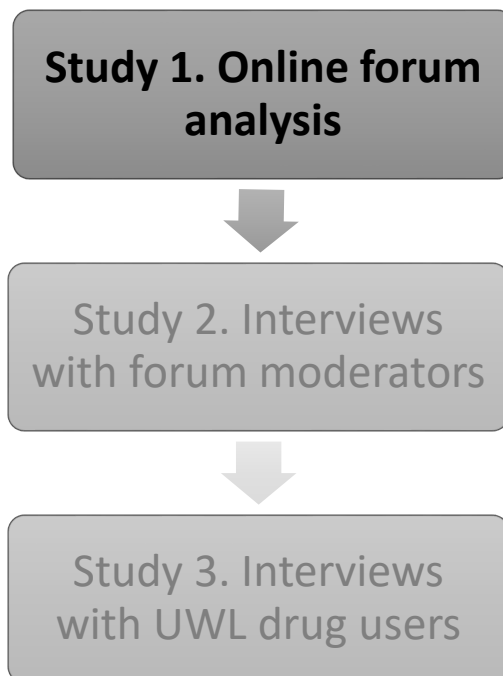
The chapter has presented a detailed overview of the types of forums where UWL drug discussion is occurring as well as the differing attitudes and user groups. Whilst some forums presented here have a supportive atmosphere where advice is given with good intentions and take on board, these are not always the communities that have a good knowledge base of UWL drugs. Those forums that do have a higher level of expertise, are often dismissive of new forum members and those new to UWL drugs which often leaves those members alienated, frustrated and potentially less likely to take advice on board. The next chapter (Chapter 5) looks across the forums to highlight some of the key themes that have presented through the ten forums presented here.

## Chapter 5. A thematic analysis of UWL drug discussion on online forums

### 5.1 Introduction

This chapter highlights the reasons, motivations and trigger points for women starting to use UWL drugs together with the perceived short and long-term risks. Findings from three qualitative studies are presented, the first of which is the online forum analysis (Figure 5). Data obtained from the online forum analysis will be presented as five key themes; 1) Perceptions around the use of weight loss drugs, 2) Motivations for the use of UWL drugs, 3) UWL drug avoidance, 4) Experiences of using UWL drugs and 5) The UWL drug user.

*Figure 5. Order of research studies*



Case studies are also presented from interviews carried out with both forum moderators and UWL drug users to further illustrate the findings. Direct quotations are provided from all stages<sup>20</sup>.

### 5.2 Perceptions around the use of weight loss drugs

This theme explores some of the attitudes and perceptions towards weight loss drug use in general and does not specifically focus on UWL drugs. Whilst many women on the

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<sup>20</sup> Quotations are as presented in online forum discussion. For interviews carried out through Skype chat, quotations are presented as typed.

forums had negative perceptions of weight loss drugs, believing them to be a quick fix and ineffective others reported positive experiences and perceptions.

#### 5.2.1 Quick fix: *Why is everyone always focused on body in a bottle?*

Perceptions and attitudes towards weight loss drugs in general<sup>21</sup> varied considerably. Views frequently differed across the forums and in discussing different types of drugs. However, many expressed negative views towards all weight loss drugs. Most frequently, this type of conversation occurred on forums where the primary focus was weight loss or more general forums such as parenting or entertainment forums. In these cases, women often argued that weight loss drugs were merely a quick fix that would not resolve underlying issues, such as overeating. Women also spoke of their own experiences of using weight loss drugs and stated that they had not helped them lose weight in the long term. However, comments such as *"it just depends on the person"* suggest that some forum members accepted that experiences of using weight loss drugs would be different for everyone.

*You have unresolved over eating issues with food, once you stop using an appetite suppressant you'll just go back to stuffing your face without really knowing why* (Forum H)

*I have tried weight loss drugs in the past and they worked well, but once I stopped taking them I gained the weight back plus more.* (Forum F)

Women often argued that losing weight required a full lifestyle change and weight loss strategy, including diet and exercise, and that weight loss drugs should not feature within this. Some felt that those who used these drugs just wanted a quick fix without having to put any effort in to losing weight. Some women also attributed blame to those working in health and fitness arguing that they promoted a *"quick fix mentality"*.

*Why the focus on "body in a bottle"? Diet and exercise is still the fundamental way to do it in my opinion.* (Forum A)

*The health and fitness industry is a big business which tries to give people that 'quick fix' mentality. Really though, nothing will change the obvious which is that diet, lifestyle and exercise has to be a lifestyle choice, not a 'fad' or something that can suddenly be acquired through some magic pill.* (Forum G)

Other women did however argue that weight loss drugs could feature within a weight loss strategy but should not be the only component.

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<sup>21</sup> Not specifically UWL drugs

*It [DNP] will work if you have a very good diet and exercise regimen. (Forum J)*

### 5.2.2 Scepticism: *If diet pills worked, there would be no fat people*

Many women on the forums were sceptical of benefits of weight loss drugs believing them to be ineffective and arguing that if weight loss drugs worked then nobody would be overweight. Some also discussed how weight loss required commitment and could not be achieved through the use of drugs. Also discussed was the idea that whilst some weight loss drugs such as DNP were effective they were not a magic bullet.

*If there was a magical pill that stripped off fat and made us lose weight, we'd all be on it and look like gods/goddesses. Like anything else worth having, it involves some work and commitment. (Forum E)*

*If this stuff worked, do you think we would still have fat people? Do you think it would be kept a big secret, and not on the national news? (Forum F)*

*Even the most powerful weightloss agents such as DNP can only increase Metabolism by around 30% (Forum E)*

Many women, particularly on the weight loss forums, treated weight loss drugs with disdain. There was much discussion concerning how these drug were a drain on resources and merely a money making scheme for those who provided them. There were also some reports of companies selling weight loss drugs by lying to consumers about their user success stories.

*Diet pills are expensive, crappy and don't do anything except make your bank account lose weight. (Forum E)*

*I read that the company that sells them has been stealing blogger weight-loss photos and claiming the loss was due to their pills. They liiiiiieeee. (Forum F)*

Others had a more balanced view and argued that whilst some weight loss drugs did not work, some drugs, including DNP, did have a positive impact on weight loss.

*I've done numerous amounts of supplements, over the counter and black market.. (i've lost 45- 50 pounds in a matter of a year, but lost a lot more money wasted on things that didn't work. (Forum A)*

*Except for the ones proven effective like ephedrine, yohimbine, clenbuterol, cytomel, DNP etc etc. (Forum F)*

Women on the forums were sometimes negative about those who recommended weight loss drugs to others.

*Hire a new trainer ASAP. Tell the old one that you are leaving for the simple reason he/she suggested you take fat burning pills which is nothing more than being a shil.* (Forum F)

*I'm surprised a trainer wouldn't first recommend a good BCAA<sup>22</sup> product to help you train and heal better or a multivitamin and omega 3 supp. I hope he didn't tell you to take a thermo unless you are already managing your macros and he knows it.* (Forum F)

### 5.2.3 Dangerous: A very dangerous, expensive and unhealthy scam

Many women spoke of the dangers and potential harms of using weight loss drugs. Some spoke of having a general fear of using this group of drugs, whilst others were fearful that they would not work.

*Diet pills are bad news.* (Forum F)

*My view is that they could potentially do more harm than good.* (Forum H)

*I have always been scared that I'll be the person that the drug kills! So in the past I've always steered clear of anything like that.* (Forum H)

*I'd be afraid that if I stopped taking one of the aforementioned pills/powders - that I'd regain all that I've lost plus more.* (Forum E)

Some women discussed how alternative weight loss strategies such as diet and exercise were safer and less expensive than weight loss drugs. There was also some discussion around whether the use of weight loss drugs was indicative of an eating disorder as those using these drugs are prepared to put their health in danger in order to reach their weight goals.

*Ever notice how pills claim to work with "diet and exercise"? So does just diet and exercise. It's a scam =/ a very dangerous, expensive and unhealthy scam* (Forum F)

*People taking laxatives daily to stop weight gain have an eating disorder treated by doctors. How is taking a 'diet pill' that makes you have oily poo and go the toilet a lot not considered the same behaviour?* (Forum F)

There was also much discussion concerning the side effects of using weight loss drugs. Whilst side effects from the use of specific UWL drugs will be discussed in more detail later, some women did voice concerns about the side effects from using any weight loss drugs.

*Its not uncommon to be rushed to the hospital with the Dr ordering ice water shot into your colon because they can't cool you down).* (Forum E)

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<sup>22</sup> Branched chain amino acid

*The pills just felt like they were "too much" for me, and I kept picturing myself dropping dead from a heart attack just because I wanted to lose the weight quicker... I stopped taking them shortly after I thought about that. (Forum F).*

*Pills are no good, they race your heart and cause internal issues you may not even notice until it is too late. (Forum B)*

#### 5.2.4 Effective: *Diet pills aren't the devil*

Many women also expressed positive views towards the use of weight loss drugs arguing that without them it would not have been possible for them to lose the weight they did. There was again however also acknowledgement that they should be used alongside diet and exercise.

*they do work with the right diet and exercise. i take them to increase the speed of my weight loss (Forum I)*

*I've been taking tablets for a while now supplementing my diet and exercise and they do work for me. (Forum I)*

Some women spoke specifically about how weight loss drugs had helped to suppress their appetite and how they acted as a "jumpstart" for their weight loss.

*By suppressing my appetite, the pills gave me the room to learn about food choices. The pills gave me the room to learn about exercise. The pills gave me the jumpstart that I needed. (Forum F)*

*Without the drug, I would not have started learning about food. Without the drug, I would not have started working on the Wii. Without the drug, I would not have started walking. (Forum F)*

Many women defended their drug use vigorously against other forum members' strong anti-drug views.

*But what do you mean by "i don't believe in diet pills " ? Are you saying they don't work ? If that's what you are saying, then you are wrong, because as you can see from this thread, there are so many people who use appetite suppressants with great results. (Forum E)*

*That's not true. Some diet pills, like thermogenics do work very well. They increase your metabolism, so you burn more calories giving you a greater caloric deficit, losing weight faster. (Forum E member)*

Some women argued that, just because other people felt they could lose weight without using drugs, that this did not mean they should feel judged for not being able to. There was also criticism of the argument that weight loss drugs were a quick fix.

*I tried for 3 bloody years, eating only vegetables and grilled lean meat, and got nowhere. Why? Because I don't have some enzymes that help in processing lipids and therefore can't lose weight. These pills have been helping me enormously recently. Please don't assume to why I or anyone else choose to take pills and insult us just because you can lose weight the natural way. (Forum F)*

Forum members often debunked other members statements concerning the risk of putting weight back on once drug use had ceased.

*Basically I took them because they suppressed my appetite, and boosted my metabolism, so the weight came off more quickly and predictably than it would have via just dieting. Now that I am off of them... nothing magical has happened to my body to make me regain weight. (Forum E).*

### 5.3 Motivations for the use of UWL drugs

Whilst some women discussed their motivations as solely to lose weight, others described the impact they had experienced from the media, friends and family.

#### 5.3.1 Weight loss: *I'm literally working my ass off!*

Motivations for the use of weight loss drugs differed. Some women reported being overweight and were already taking UWL drugs or seeking advice about whether they should use them. Often women posted logs of their progress, detailing their initial start weight, exercise and diet regimes as well as UWL drugs or other supplements they were taking.

*I am not really overweight but could do with losing about 15 lbs! If anyone could recommend something better, that would be great! (Forum A)*

*I have been having some weight problems for a while and was really getting frustrated. (Forum I)*

*I am not a body builder. I am running dnp to lose weight. I am sick of being fat, dieting all the time, plateauing. I am 27/F/4'10"/136 lbs. I'm not sure what my ultimate weight goal is but 115 lbs or less. I started DNP this week for a few days to see how my body reacted. I am barely having side effects at all, so I'm motivated to post a quick log to get feedback. (Forum J)*

Others discussed how their weight loss had plateaued and they were using UWL drugs as an extra boost. Additionally, some women discussed how they wanted to use weight loss drugs to help kick-start their weight loss and to help them get into the habit of eating less.

*I'm only using them because I have plateaued in my weight loss and need a boost. (Forum F)*

*I'm literally working my ass off! I'm not looking for a quick fix, just a boost into weight loss. (Forum E)*

*Has anyone tried any tablets to help reduce appetite and do they really work? I only plan on using them for a short while until I get used to not eating in between meals - I just need time to form habits - it just the way I work sadly. (Forum D)*

There were some instances where women discussed having metabolic disorders and this had led them to use a UWL drug.

*I honestly know that there is something metabolically wrong with me. So after much reading and contemplating, I decided to try low dose DNP. I have purchased crystal DNP, 250mg, from the well known supplier (Forum J)*

Some women also discussed how the traditional weight loss strategies had not been effective and it was their frustrations at not losing weight which had led them to use, or consider using, UWL drugs. Some also spoke specifically of the merits of UWL drugs arguing that they were effective in losing weight and burning fat.

*I've been back on track all week. Only my disappointment post wi<sup>23</sup> that led me to these tablets! (Forum H)*

*Therefore to reduce weight Slimex is the best weight loss diet pill that works with the burning of fats stored in body (Forum F)*

*i have recently put on a lot of weight - about a stone and a half since new year! i have tried dieting by eating less during the day and i find i cant for some reason i still end up getting something to eat is there any diet pills that help you lose weight faster and suppress hunger? need to lose about 2 n a half stone ideally. (Forum D)*

Some women spoke of specific events that had triggered their weight gain, such as quitting smoking, dealing with stress, depression or pregnancy. Women discussed how weight loss had become more difficult following these events but, for most women there was an awareness that UWL drugs were not a universal remedy.

*I was thin most of my life, so I know where each side is coming from. It seemed so simple back then. "Eat less, weight less". It wasn't until I quit smoking and started eating when I was stressed that I had a weight problem. (Forum E)*

*I had depression for upwards of a year due to my job, and during this time I gained about 50 pounds. A few months ago I quit, and travelled the world to gain some level of confidence again. It worked! I'm back in [place of residence] now, and ready to shed the weight. I chose to use DNP after reading everything about it and determining that if I do it safely, I should be fine. (Forum J)*

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<sup>23</sup> Wi = Weigh in



*I became pregnant and ten months later, I am taking it again for that initial boost. Up to now I've lost 8 pounds in 5 weeks, it isn't a fix all but definitely a motivator. (Forum F)*

In particular, when discussing DNP, other women often advised against the use of this drug for quick weight loss until the potential user had adjusted their diet and exercise regime. There was also much criticism of those who used DNP when overweight or obese with members arguing that it was easy to 'out eat' <sup>24</sup> DNP and the drug would be ineffective without proper diet and exercise.

*Look I've seen other mothers also ask for advice on here and we give them all the same advice.. This isn't what you want. I know it sucks after having a kid with all this extra weight but not having any extra time for the gym you want something you can just take and see pounds come off. (Forum J)*

*Are you actually mentally retarded? If you don't know the BASICS of dnp how do you expect to run it and not completely shrek yourself<sup>25</sup>? How about before using a lethal substance you try putting the fork down and not being a fat land whale (Forum J)*

There was also some discussion about the use of UWL drugs to help women cutting<sup>26</sup> weight in time for fitness or bodybuilding competitions.

*I have 11 weeks to this competition and for this one I want to lose 7-8lbs max.... And never having really tried much in the line of supplements... I am really wondering if they would be worth trying out.... would it be worth trying at all? (Forum A)*

*Are you talking about fat burners? I have thought about taking some before. I think they might be useful when on a tight schedule, e.g. prepping for a bodybuilding competition. (Forum F)*

Some women spoke of achieving specific goals such as 'getting abs' or 'lowering their body fat'. In these cases, women were often already physically fit but used a UWL drug for an extra edge.

*I'm a bit greedy haha. I was like ok cool, I have an alright body... let's see if I can get abs! But I have to lower my body fat percentage for that. I've been trying to do some body recomposition for a bit, and DNP is pretty much perfect for this. (Forum J)*

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<sup>24</sup> Using DNP without a calorie deficit / overeating whilst using DNP

<sup>25</sup> Slang. Assumed to mean wreck yourself

<sup>26</sup> Period when in calorie deficit to lose fat or weight. Often done in run up to bodybuilding competition

Women often appeared conflicted about whether to use UWL drugs. They often cited weight loss as the potential benefits whilst still voicing concerns about side effects. In one case a forum member discussed how she had discarded DNP due to fear over cataracts but was feeling tempted in trying to drug again.

*I just read up on DNP cause I never heard of it, it does not sound pleasant says the angel on my left shoulder. but losing half pound a day would be tempting says the devil on my right shoulder. (Forum F)*

*I have thought of taking DNP or Clenbuterol/T-3 to reach 5-6% bodyfat. I have some pro body builder friends that have done it but man do they say some scary stuff about DNP. (Forum F)*

*So, I am interested in trying DNP again. But as a woman I am concerned about cataracts. I (stupidly) got rid of the rest of my DNP supply out of fear, and I regret it. (Forum J)*

#### 5.3.2 Appetite reduction: *My hunger meter doesn't seem to work very well*

Many forum members discussed how they struggled to lose or maintain weight due to overeating. In some cases, women discussed how they knew weight loss drugs were scams or money makers but they were still curious to see whether they were effective. Members often asked other online users about which drugs work or which they would recommend.

*I have been thinking about using an appetite suppressant does anyone tried any that actually work I know their are cons but I have a big problem with the late night munchies like I cant control myself . so I need something to help me. (Forum E)*

*is there any about cause i cant bloody stop eating im a joke. (Forum H member)*

Some women openly discussed that they used UWL drugs because they overate and were overweight. In some cases, these members appeared frustrated by others who denied this being their motivation for use.

*You are taking dnp because you are fat. We are all fat and that is why we're using it. It is obvious that you do not know how to eat correctly because you are here. Join the club (Forum J)*

Some women discussed how they struggled with feeling hungry all the time and appetite suppressants such as sibutramine helped with this. Often members discussed using UWL drugs due to them having not having the willpower to diet without them.

*I took Reductil tablets from when I struggled to suppress my appetite. (Forum H)*

*It's nice to be losing weight and not be hungry. My 'hunger meter' doesn't seem to work very well, as I can feel hungry even after having eaten a good meal. This is where I found Meridia helped me. (Forum E)*

*For me, thermogenics that suppress the appetite really helped me stop obsessing about food. (Forum F)*

*I need to lose a few pounds and whilst I eat 3 healthy meals a day and take moderate exercise, my downfall is snacking in between. I have a huge appetite unfortunately and my will power at the moment is rubbish. (Forum D)*

Women who had used an UWL drug in the past reported struggling with their appetite once they stopped taking the drug. In some cases, women reported that they were using these drugs again.

*yes i'm still on reductil. i took a break for a bit to see if i could make it on my own. i was okay but kept being obsessed with food. Thought about it every minute so i'm back on the pills. (Forum G)*

### 5.3.3 Desperation: *It's gonna be a last resort thing for me*

Some women spoke about UWL drugs as their last resort for weight loss. Often these women felt as though they had tried every method to lose weight.

*i've heard of it, i know its expensive, have you tried it? "if i don't lose weight with alli. (Forum I)*

*I've been back on track all week. Only my disappointment post wi<sup>27</sup> that led me to these tablets! (Forum H)*

Some women described how they felt it was impossible to lose weight. They also acknowledged that, whilst people may be anti UWL drug use, they felt as though they had no other option. Some also discussed how they felt it was worth the risk of taking UWL drugs as it was the only thing that worked for them. Specifically, when discussing DNP, one forum member argued that she would rather “*feel somewhat miserable for 20 days than miserable throughout my life*”.

*there are probably people who are really anti-pill... but I was finding it impossible to lose weight without literally starving myself. I dieted really carefully for about 8 weeks and lost 1lb. I could lose that through natural fluctuation without dieting, and eating normally (ei generally sensible food with the occasional treat thrown in) never took me over what I started at. My motivation and self-esteem had reached rock bottom. (Forum E)*

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<sup>27</sup> Wi = Weigh in

*You don't know what others have done to lose weight in the past. I've tried counting calories, have lost very little compared to the sheer amount of misery that eating less comes with. I'm young and have a life and I don't want to through that again. I would much rather feel unhappy for 20 days than miserable throughout my life for a small amount of weight loss/maintenance. (Forum J)*

Other women described the need to lose weight quickly, for e.g. a holiday, and did not feel like diet and exercise would help them to lose the weight quickly enough. Many women spoke about their reluctance to starve themselves and it appeared that this group felt that severely restricting food intake or using UWL drugs were their only choices for losing weight.

*I do think I'll get addicted I just need something alongside the exercise that I am starting to do. Nothing is working and nothing has done in the past this is all I can see working. I am going travelling next year and don't want to be a size 14 when I go. I need to get down to a 10. I am not going to starve while I take these I will still eat, just smaller portions. (Forum D)*

Some women spoke of their weight loss journey and discussed how their lack of success had led to their UWL drug use. Women also discussed how they used the internet to try and source the help they felt they needed.

*I was fighting with my weight for many years. I was on diet for a long period of time, but without any positive results. So, I've decided to drink<sup>28</sup> Reductil (Meridia) weight loss pills. (Forum I)*

*After being on many diets for without any positive results, I turned to the internet to look for diet pills. (Forum I)*

Women often requested that other forum members advise them on which UWL drug to use. Often, this group appeared to want to focus only on the positive experiences of these drugs.

*I know using diet pills is seen as an easy way out, but I would like some suggestions on some to try that work. Post your opinions and of course success stories. (Forum F)*

#### 5.3.4 As part of a weight loss strategy: *Fat burners are just the icing on the cake*

Many women described how UWL drugs could be used as part of their complete weight loss strategy. Many also argued the importance of healthy eating and diet and advised against relying solely on UWL drug.

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<sup>28</sup> Suggesting excessive consumption

*Your best bet (whether you decide to use it or not) would be to have a CLEAN diet and good workout regime first. Then add it in for enhancement. (Forum A)*

*A clean diet, and workout regime will produce results. Fat burners and other supplements are just the icing on a cake. (Forum A)*

Often women described how UWL drugs gave them extra motivation and could be used as an add on to diet and exercise. Many women described how the addition of UWL drugs made weight loss easier.

*Of course you can lose fat without using diet pills. I certainly have but the reason why I use them is that it makes the diet easier. Notice how I focus on the diet and not on the supplement. (Forum A)*

Some women drew parallels between the use of UWL drugs and bariatric surgery arguing that both required a lifestyle change. Furthermore, women also argued that whilst UWL drugs featured in their weight loss plan, they felt that they could continue to lose weight without them.

*A lot of people will down the use of pills. But I see it no differently than if you had surgery. Surgery and pills can help and fail. With both you need to change your lifestyle/way of eating for the rest of your life to keep it off. I know this, And when I stop the pills I will still be losing weight and keep it off. (Forum F)*

Women were critical of those who expected UWL drugs to do all the work for them arguing that hard work and motivation to lose weight were still required. The second quote presented was from a bodybuilder who was very critical of drug use within bodybuilding competitions.

*There is no "magic" pill, where you can still eat all the junk you did. Weight loss is about putting in the hard work. That is the mistake most people make when taking a pill. (Forum F)*

*Truthfully there is no pill that will work for you.. dnp wont work for you.. you have to change your diet. you can not eat curry while taking dnp. you will feel shitty.*  
(Forum J)

#### **Reflexive pit stop – Motivations for UWL drug use**

Around the time of my third year of my PhD, I was asked to write a blog about my PhD for a human enhancement drugs website. At the point of being asked I had been looking at the online forums at some of the varied reasons for why females use UWL drugs and thought writing about this particular issue would make for an interesting blog. With this being a blog however and not a traditional piece of academic writing, I felt that that this gave me the opportunity to include some more personal reflections of this phase of my PhD. It got me thinking about some of the assumptions I held about why I thought women used UWL drugs at the start of my PhD and why I had these assumptions in the first place. I might not have admitted it at the time but I felt that women used drugs of this nature simply because they were desperate to be thin. I thought about my own experiences as a female living in an image conscious society and how at certain points in my life I had gone to extreme lengths to be thinner. I'm sure that if I had known about drugs such as DNP at the age of 20, that I would have considered using them and my own experiences and thoughts had shaped the way I thought about UWL drugs. I felt that those using these drugs would be deeply unhappy with their bodies and willing to try anything to achieve the ideal body, i.e. a thin body. Whilst feelings of desperation are apparent from some members of the online forums I analysed, what is also apparent is that to say that is the only reason why women use UWL drugs would be an extremely simplistic way of viewing this group.

Alternatively, some women felt that they were being wrongly criticised for their UWL drug use and felt that these drugs have a place within a weight loss strategy. Furthermore, women felt that they could learn from the use of UWL drugs in terms of how to continue with their weight loss plan. Some women on the forums described how they used UWL drugs to help them get into good habits and then gradually reduced their intake.

*Okay, this is pissing me off. No, I do not believe in diet pills alone, but they DO have their place with proper diet and exercise...They're a tiny aid in an uphill battle that is going to be 95% you and changing your lifestyle. Don't bash people for trying everything they can to beat the fat. It's really hard and frustrating as we all know! This site has become less about support and more about self-righteous* (Forum F)

*Learn from the usage of the pills and continue to eat in a moderately healthy way after their use.* (Forum F)

*it's for the short term- get into good habits then ween off- keeping (hopefully) the good habits.* (Forum E)

#### **5.3.5 Influence from others: *Everyone that is cut nowadays uses some sort of diet pill***

Some women spoke about how they felt pressured into using UWL drugs by others around them. In some cases, this was because they noticed that other people who were using

these drugs were achieving the bodies that they themselves desired. This was seen across bodybuilders and dieters and those in their cutting phase for competitions as well as those looking for a quick boost to the weight loss.

*I am in my cutting phase but want to know "it is possible to successfully diet without the aid of diet pills?" It seems everyone that is cut and ripped nowadays uses some sort of diet pill. (Forum A)*

*I met an old friend of mine just in the beginning of January. I hadn't seen her for a while and the funny thing was I could hardly recognize her. She had lost 3 stones since I last saw her (yes she was a bit overweight). I asked her what she had done to lose so much and she explained that all she had done was taking a diet pill every day before lunch. (Forum I)*

*I've been taking diet pills for 3 days now whilst doing slimming world. I started taking them because my friends sister took them for 1 week and lost 8lb. She was dieting, having 3 meals and snacking on fruit! so I thought oh I'll give them a try.... (Forum H)*

*My friend was telling me about how great some sort of diet pill is, and I was thinking about trying it to see if I could boost my results a little. (Forum F)*

Some women spoke about how UWL drugs had been recommended to them by fitness trainers and this had influenced their decision to use.

*I'm a female, 5'3 and just over 120lbs, I started using DNP because some of my trainers from my fitness club mentioned using it to get rid of fat. I bought them from the same trusted dealers they use. (Forum J)*

Other women spoke about receiving more direct pressure from family and friends who had actively encouraged them to use UWL drugs. In some cases this was linked to family and friends concerns about their health due to their weight. In other cases, women were influenced by others who were using the drugs and having positive results.

*Haha i was talked into it (Forum J)*

*So i was walking around with my dad, and he started talking about how worried he's about my weight. He obviously told me pills weren't enough and i needed to start eating healthy stuff, but long story short, he got me Sibutramine. (Forum E)*

*My best friend just forwarded me a email with her thin pictures...it had pictures of how she looked less than a month ago, which was 30 pounds heavier. She has been taking diet pills ,swears by them and is encouraging everyone we know to take them. Ill admit she looks awesome. Standing next to her sucks..... I keep telling myself that I am doing it the right way and that is cheating but she makes it look so effortless.... Please someone tell me that maybe I wont see results as fast as her but*

*Ill get where I need to be with a little hard work and dedication... this is the way I should be going...right? (Forum F)*

#### 5.4 UWL drug avoidance

This theme explores some of the issues forum members discussed when thinking about using UWL drugs. In particular issues around why women chose not to use these drugs, such as the drugs legal status, fear of the dangers of use or side effects and the impact taking UWL drugs might have on friends and family.

##### 5.4.1 Legality: *They have been banned for a reason, and a good one at that!*

Particularly in relation to discussion about DNP, women spoke about how they would not use UWL drugs due to their legal status, i.e. being unlicensed for use in weight loss. This often involved the sharing of incorrect information, however in most cases this information was not challenged.

*They are illegal street drugs, not meant for human consumption. That means they ARE well regulated and these say do not take them and it is illegal to sell them as diet pills. (Forum F)*

*Hasn't DNP been illegal for weight loss since 1938? (Forum F)*

Often women talked about how they felt that the drugs were effective but that they were dissuaded from using them because they were not legally being sold. In some cases, members talked about how they were sports competitors or body building and were required or preferred to stay natural.

*I can't get and don't want anything illegal- I am an IFPA PRO, a Natural Federation so I am drug tested and polygraphed. (Forum F)*

*I have heard of clen and I turned down using it for a competition. Never heard of DNP, though. I prefer to stay legal, though. No judgement, just the way I roll (Forum A)*

For sibutramine, which was a previously licensed drug, women spoke about how its changing status meant that they would no longer use it, as it must have been “banned for a reason”. There was also some discussion from women who had purchased weight loss drugs and later found out they contained sibutramine and were then conflicted about whether they should still use them.

*They have been banned for a reason and it's a good one! Your doctor may have been happy to prescribe them then but as research develops we find out new things. (Forum H)*



#### 5.4.2 Fearful of the risks: *I'd rather be fat and alive, than a skinny corpse*

The dangers of DNP were discussed frequently with women arguing that whilst it was an effective drug, it was too risky for them to consider using.

*In all honesty, there really aren't any legit. supplements. Fat burners etc. are nearly all complete bunk. You'll get your best results from a good diet. Edit: Oh, unless of course you want to supplement with 2,4Dinitrophenol which isn't advisable (Forum A)*

Often fear of use was linked to the legal status of the drugs. Some women suggested that, due to these drugs being unlicensed, if they suffered ill effects from using, others would blame them for using them when banned. Furthermore, due to its risks and banned status, women in some cases tried to quickly shut down discussion of DNP as they did not appear to think it an appropriate subject matter.

*I'm worried that if something was to happen id be told it's my fault for taking them when they are banned. (Forum H)*

*The only one which allows you to sit on your ass all day and lose weight is DNP but it's illegal and highly dangerous. (Forum E)*

*DNP is banned. It is for research purposes and not appropriate to talk about on this forum, and it CAN KILL YOU. (Forum A)*

There was frequent discussion of DNP and the risks of overheating following its use with one woman likening it to “*rat poison*” and another saying it would turn those who used it into a “*human torch*”. Women also discussed DNPs narrow therapeutic window arguing that the effective dose was too close to the lethal dose.

*Probably DNP. You'll turn into the human torch soon enough. (Forum F)*

*Don't even think of using it, because its not uncommon to be rushed to the hospital with the Dr ordering ice water shot into your colon because they can't cool you down (Forum E)*

*The reason those are illegal is because their effective dose is so close to their lethal dose. (Forum F)*

There was recurring discussion around DNP killing people and many women argued that those who used it were stupid to risk their life. Much attention was also given to media reports of those who had died following DNP use.

*DNP can kill you. (Forum A)*

*My god...I didn't know that such pills were so readily available....what a waste of a young mans life..(Forum G)*

*Best case scenario is they don't work, worst case scenario does not bare thinking about with some of these toxic pills on the internet that jack your body temperature right up. A girl in the UK died a few days ago taking some diet pills she got off the Internet. Even though she managed to get herself to hospital they could not do anything to save her and doctors could only watch her burn up from the inside out. (Forum F)*

*The side effect of ACTUAL fat burners like DNP is, well, death. DNP literally kills people. It's not some weird effect of the drug - the thing that kills people is the increased metabolism. They die from the cardiovascular stress or excess body heat. So before you pop another pill that you think increases your metabolism, think about that. (Forum F)*

For sibutramine and rimonabant, there was less discussion concerning the dangers of these drugs. However, some women did cite potential side effects of these drugs as reasons not to use them. There was also some discussion from women who been prescribed sibutramine pre-ban and expressed fear at continuing to take them post-ban.

*Sounds like Rimonabant. However, reading side effects etc I don't think you want to go there! (Forum C)*

*I still have some of the drugs left but I'm scared of taking them. (Forum F)*

5.4.3 Risk of side effects: *It does not sound pleasant says the angel on my left shoulder but losing half pound a day would be tempting says the devil on my right shoulder*

Many women spoke generally about side effects of taking weight loss drugs and often referred to 'things they had heard' such as these drugs causing issues with fertility, kidney problems or heart attacks. This was a particular feature of fitness forums where there was a focus on diet and exercise above weight loss drugs and supplements.

*No diet pills for me, i've read some can negatively affect fertility and and I want 2 more kids!!!! Plus, just eating right and watching cals and carbs work for me. (Forum F)*

*To be honest diet pills make things worse such as your health with kidney problems and so on. (Forum F)*

Other women spoke about specific side effects about taking UWL drugs. In particular, many discussed the risk of cataracts and cancer. Specifically for women there was much discussion of the risk of DNP causing problems with fertility. Furthermore, there was some discussion around DNP having perceived added risks following use in women.

*Besides killing you in less than a day, can also cause cataracts, and cell mutations...hmm cell mutations and oestrogen and breast = cancer. (Forum A)*

*DNP is effective but there are unknowns when it comes to impact on ovum, which to me is a concern for any woman that wants to have kid. (Forum A)*

*Sounds like DNP or Dinotrophenol. Its can only be used by males. It can cause blindness if used by woman. (Forum F)*

Other women also discussed other side effects from using DNP such as their eyes changing colour and bloating. Many women spoke of overheating, sweating and excessive tiredness following DNP use.

*I came THIS close to busting out a stash of DNP. . .but it's already 89 \*\*\*\*ing degrees here and the last time I tried it, it didn't do anything except make me feel like \*\*\*\* and turn my eyes yellow. Oh, and make me bloat during the duration. . .which I knew would happen (Forum A)*

*DNP significantly speeds up your metabolism. The main side effect? Body heat. Taking DNP makes you hot and sweaty and exhausted. (Forum F)*

*I just don't want to burn up (Forum J)*

Many spoke of their temptations to use DNP due to its perceived effectiveness. However, this group often did not use it, due to its harsh side effects.

*i just read up on DNP cause I never heard of it, it does not sound pleasant says the angel on my left shoulder. but losing half pound a day would be tempting says the devil on my right shoulder. (Forum F)*

*Don't get me wrong, I understand the appeal. But not at the risk of permanent reproductive issues, heart failure, brain damage, and/or death (Forum F)*

Some women however, did consider the potential side effects but felt that they wanted to use it anyway, particularly with DNP which they argued would only be for short-term use.

*I'm female too, and read about these side effects, but I wouldn't be planning long term use 😊(Forum J)*

Women also discussed their concerns around the side effects of using sibutramine and rimonabant. An argument was often made that the side effects and risks of using these drugs outweighed the potential for weight loss.

*Reductil is Meridia, for those who haven't heard of it. Personally, I'd rather lose weight without resorting to psychotropic meds that are controlled substances AND increase blood pressure. (Forum E)*

#### 5.4.4 Other people: *I don't want my daughter to learn from me that it is okay to pop pills*

Some women argued that they did not take UWL drugs as they did not want it to impact on other people in their life. In particular, women spoke of their role as mothers and their responsibilities to their children. Women argued that they did not want to risk their health by taking UWL drugs but also that they did not want to set a bad example to their children.

*I was desperate when i posted this thread abit down in the dumps Ive had people pm me with names of pill i considered getting some from the USA banned in this country but then i looked at my girls and though better of it. They need there mummy it just means me putting in abit of hard work. (Forum G)*

*Okay, so I'm not going to take it, right now. I'm gonna try another 6 months of doing what I've been doing. I did change my calorie intake, and am going to try to lose more than I initially planned on. I don't really want to pop a pill to lose weight, I'm not a pill popper in the first place, and I don't want my girls to watch and learn that it's okay to pop pills. (Forum E)*

Others had seen friends or family suffering ill effects following weight loss drug use and this had dissuaded them from using them.

*A friend of mine got quite ill at uni after taking some diet pills she bought off the internet that were supposed to increase your body's capacity to burn fat (I think that was the idea anyway). I was always very wary of them and unconvinced by their effectiveness before that, but now even if they worked as claimed, I wouldn't use them because I've seen how unwell she became. (Forum E)*

Some women spoke about how family members did not want them to take weight loss drugs and this featured in their decision not to use.

*my husband didn't want me to take those pills anyway, I'll return them, no problem at all. (Forum F)*

### 5.5 Experiences of using UWL drugs

This theme explores forum members' experiences of using UWL drugs. Both positive and negative experiences are presented as well as side effects that were experienced. Also discussed is the level of judgement women experienced from other when using UWL drugs.

#### 5.5.1 Effective: YES IT'S WORKING!!!

Much discussion on online forums focused on womens experiences of using UWL drugs. Often there was a sense that women wanted to share their progress and both positive and negative experiences of using these particular drugs with other people.

*i used a lot of different things. .. the only things that actually worked though were ones that were considered black marketed.... "DNP" and "clen" (Forum A)*

Some women discussed how drugs such as DNP were far more effective than other weight loss drugs, in some cases including both those currently licensed and those that were licensed previously.

*Nobody compares it with DNP. It just beats the pants off every other FDA approved weight-loss drug, including orlistat, sibutramine and rimonabant. (Forum A)*

*I've also used with reductil , and it works better for me than orlistat. (Forum F)*

*I hate when people say magic pills don't exist. your acai berry or raspberry ketones aren't what you are looking for... (Forum F)*

DNP in particular was considered to be a very effective drug, however women often felt that it was too dangerous for them to use. Other women argued that it was effective but required prior knowledge before use, e.g. use of complementary supplements to counteract side effects and increased water consumption.

*It's a shame DNP is dangerous, it's great at burning fat. (Forum F)*

*Then there is DNP it's literally like drinking rat poison, but it really burns fat. You need supplements when using it just to not die, and if you don't hydrate or overheat you WILL die. (Forum F)*

*The basics: F/5'7"/155lbs (weighed 09/18/16) BMR ~1500 Calorie consumption 1200/day Supplementing with a daily multivitamin, vit C, vit E, fish oil, antihistamine, and EC stacks. (Forum J)*

Often women appeared to consider the drugs to be effective if they had lost weight following their use.

*I first used reductil, i lost 13 kgs in 3 weeks. (Forum E)*

*well considering I have lost 14.5 lbs in two weeks and normally it would at the most 4 lbs I would say, based on that, YES IT'S WORKING!!! (Forum F)*

*I took meridia and it worked well, I lost about 30 pounds. (Forum F)*

Effectiveness of the drug was often equated with maximum weight loss and minimum side effects. Some women discussed specifically the perceived benefits of the drugs in terms of reducing appetite, increasing metabolism and increased energy.

*The best results I had was with Reductil. It seemed to work better the longer I took it. I never had any side effects and was not hyped up all the time like when I used Phentermine. (Forum B)*

*I'm losing weight with Acomplia It's an appetite suppressant that I was recommended by an old friend I managed to buy a supply of these pills online and started them right away I take them for about 6 weeks and find them very effective at suppressing my appetite, speeding up my metabolism and losing weight fast I've already lost 13lbs and I feel so energetic! (Forum G)*

*I had a positive experience with Acomplia. I started to take it a while back and it has helped me a lot to lose my extra weight. I've lost 18 kilos in weight and not had any serious side effects. (Forum I)*

*Meridia is working pretty good for me. I just started a week ago and I have never felt so energetic, also it seems to have curbed my appetite (Forum E)*

Specifically, women discussed how increased energy helped them to increase their exercise levels. Women often felt that UWL drugs helped them to have an overall healthier lifestyle rather than just relying on the drugs. Women also argued that the drugs helped them to adhere to their healthy eating and exercise strategy.

*I am on a low calorie diet and the Reductil helps me to stick to my diet. (Forum H)*

*I've been on reductil for about 3 months and ive lost 15 kilos. Is helped me with excercise as I have heaps more energy now and actually feel capable doing it, I excercise 3-4 times a week mostly cardio but resistance training too, I started off just brisk walking for 20 mins and building it up as I lost weight and gained fitness Im really happy as i dont feel Im loosing it to fast - about a kilo a week. Its just made it easier to change habbits and my lifestyle with less cravings, bingeing and the usual things that would normally have been my pitfall. (Forum E)*

Furthermore, women discussed how these drugs made them forget about food and change their eating habits. There was much disagreement with forum members who argued that UWL drugs were merely a quick fix which, did not deal with underlying reasons for overeating. Some women argued that UWL drugs helped them to establish what “normal” food portions were and helped them to diet more effectively. In these cases, it was argued that UWL drugs were more effective than diet plans.

*I strongly disagree with the statement you made. I have been on Meridia for 6 months and it has helped me COMPLETELY change how I see food, my approach to eating and allowed me to establish new and healthy habits. It only takes 21 days to form a habit...and Meridia gives you the time you need to relearn to enjoy healthy food. (Forum E)*

*I'd have to disagree with this. I've been on it for just under 6 weeks. I don't do any formal exercise, but am eating a healthy well-balanced 1450 calorie per day diet and I've lost 8.7kg (19lbs) (Forum E)*

*What the Meridia did was have me feel full or satisfied with my "normal" sized portions. I cannot EVER before remember being satisfied unless absolutely FULL. I've tried the eating slowly, low fat/high volume (the WORST types of plans for me), boxed food plans (nutrisystem), and have only really had success in the past with Atkins. Meridia taught me what normal portions are! It allowed me to STOP eating at the right time, so at least I KNOW how much (really, how very little) I can eat to lose. (Forum E)*

Some women spoke about the ease of using UWL drugs leading them to wonder why they hadn't used them earlier.

*I can recommend Acomplia. These pills control the appetite and you don't have the desire to eat so much. I lost almost 13kg in two months with Acomplia. Now I wonder why I struggled all those years with the extra kg when it could have been so easy just by taking these pills. (Forum I)*

There was also some discussion concerning how the use of these drugs had helped women to feel more confident and were considered life changers for those using them.

*I have had some great compliments, and my weight loss really has changed my life so much, in every sense, from the jobs I want to do, the confidence I have and the courses I've taken. (Forum H)*

Some women felt that even despite side effects, the weight loss they had achieved through the use of UWL drugs meant that their use was justified.

*I got all the sides: extreme thirst, sleepless nights, lethargy, and the worst- extreme sweating!... I'm extremely happy with the results, I was hoping for 7lbs, and I'm a month out of my cycle and have easily kept that weight off. (Forum J)*

Whilst not frequent, there were some women who promoted the use of UWL drugs. In these cases, women often talked about their own positive experiences of using and recommended specific drugs for others to take. Women also suggested specific online vendors to purchase these drugs from.

*I can suggest you one drug that help in losing weight which is Acomplia. (Forum C)*

*20kg off in just three months, my biggest achievement until now. You can buy them as I did, online on [name of website]. The prices are very reasonable here and the customer support is also very kind (Forum I)*

#### 5.5.2 Negative experiences: *When you go back to "normal" you'll gain it back*

For DNP, women often either used and reported positive experiences or had never used and advised against use due to potential side effects. Those who reported experiences of

using DNP tended to report other people's experiences rather than their own and focused upon the harms of use.

*DNP is bad news. I don't know loads about but a friend took it as recommended and after researching it for 6 months and nearly killed herself. (Forum A)*

*DNP is BAD I had a friend who nearly died using it. I made her flush it down the toilet. DNP shouldn't even be a consideration. (Forum A)*

Experience was often considered negative if those using had not lost weight. Some women appeared frustrated that they were not seeing results as quickly as they would like to. In these cases and for DNP specifically, others on the forum advised users to have a more relaxed approach (*"It's ten fucking pounds. Chill out"*) and that their weight loss would be more apparent once they had finished their cycle (*"Dnp causes you to hold water, 5 days after you stop taking Dnp will show your true weight loss, so don't worry if your not seeing results fast"*).

*I took reductil for a while and it did nothing. I'm still fat! It was awaste of money and misplaced hope! (Forum F)*

*I have tried Reductil three times with no joy (Forum H)*

*I'm female, started at 66.7kg and about 19% body fat. I've been taking 500 mg of DNP for the last three days and was annoyed that this morning my weight is only down .4 kg. (Forum J)*

Some women also discussed that whilst they had lost weight, the weight loss had been short term. In some cases, women argued that the weight loss was only due to the drugs having a laxative effect.

*Sorry, i say no drugs. May help you lose a bit more to start bu when you go back to "normal" you'll gain it back. I did with Meridia many moons ago. (Forum F)*

*I was able to maintain from weight loss from Meridia for nearly 17 minutes before regaining it plus more. No one had told me that such drugs typically "poop out"<sup>29</sup>. A real medical term which means that at a certain point they stop working, even if you increase the dose, and by doing so increase the side effects. (Forum F)*

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<sup>29</sup> Developing a tolerance for a drug so that it is no longer effective



Furthermore, some women argued that UWL drug use contributed to them making unhealthy food choices. One woman stated that using drugs of this nature perpetuated the feelings they had that food was their enemy.

*I took reductil for a while at the beginning of the year, they did help me lose a bit but I found the suppressed appetite element didn't help me to eat properly (Forum H)*

*Never again. I'm going to stay with real food and hopefully I will realise that food is my friend and not my enemy! (Forum H)*

In contrast to those women who felt that UWL drugs had helped them long-term, some argued that the use of this type of drug did not help them to deal with the underlying reasons for why they were overeating.

*I honestly feel--as [forum member] also said--that going the tougher route (with the help of [forum name]) and just logging your caloric intake, building up the will to eat less, and eating better foods, that the weight lost will stay off longer, because you will have trained yourself to control your appetite instead of letting a drug do the work for you. (Forum E)*

#### 5.5.3 Side effects: *I felt freaked out on them*

For sibutramine and rimonabant, the issue of side effects were often discussed in relation to the drugs licence withdrawal. Women spoke about their experience of using these drugs pre-ban and the side effects they had experienced. Whilst DNP discussion often focused more on the fear of using the drug due to side effects, discussion concerning, in particular sibutramine mostly focused on experiences of side effects.

*Acomplia has been banned due to side effects which i can confirm (Forum H)*

*I know it's [Rimonabant] has been banned. My experience was not good which seems to have been the norm? (Forum H)*

Other women spoke about side effects they had experienced such as nausea and increased thirst.

*I did get a few sides effects [from rimonabant] at first- i felt a little sick for the 1st week. And I itchy itchy on my arms and legs but these both gone now. (Forum G)*

*I have no side effects [from rimonabant] except that I'm thirsty and drink a lot of water. But this doesn't bother me. (Forum G)*

For sibutramine specifically, women spoke of experiencing irritability, feeling “spaced out” and increased heart rate.

*I had crawling skin, was going hot and cold, was spaced out and generally feeling crappy. (Forum E)*

*I tried Reductil once. I got them online for around £100. They didn't do much for me - I felt freaked out on them, hot and cold sweats, drank loads of water, didn't eat and didn't lose any weight! (Forum H member)*

*I've tried Meridia - but it made me too irritable! I could not stand myself (Forum E)*

*The only side effects I had was a slightly increased heart rate (Forum E)*

The forum which had a specific sub-forum discussing DNP saw much discussion relating to users experience of DNP and side effects associated with them. The most common effects experienced, which may be expected given the fat burning properties of DNP were overheating and sweating. Additional side effects discussed included diarrhoea, constipation, hives and irregular menstrual cycle.

*Dosed this afternoon and had to put a towel on my office chair to prevent me sticking to it. Washing spare bed sheets so I can change the sheets on the bed. Noticed some shortness of breath in the evening. Slept ok, but sheets were soaked still (Forum J)*

*I don't think solid poo exist whilst taking DNP (Forum J)*

*Really bad constipation. I think this might be a dehydration related issue (Forum J)*

*Found online similar experiences by other female users on bodybuilding forums, from delayed to missed periods (Forum J)*

One woman described a series of side effects from using DNP but appeared frustrated due to not losing any weight.

*I'm a 25 year old female. I worked my way up to 600mg per day over two weeks. Whilst on the cycle I didn't see any change in my body or on the scales, however I got all the sides: extreme thirst, sleepless nights, lethargy, and the worst- extreme sweating! (Forum J)*

Others reported suffering no side effects following the use of DNP or stated that the side effects they had experienced were manageable.

*I'm feeling pretty good. I haven't experienced any heat or sweating yet. I might be a hair warmer today, but I am wearing a thick sweater and uggs, so who knows. Sleeping great. No stomach issues. (Forum J)*

*Some sweating, but nothing too bad (Forum J)*

#### 5.5.4 Judgement: *So I figure that I will get a lot of flack for this*

Some women reported feeling judged if they admitted to others that they had used weight loss drugs or were considering using them. In these instances, it was felt that other people did not understand their reasons for taking them and thought they should diet and exercise instead.

*When i told my work mates that i was taking slimming pills, they all said same thing : just go on a diet . And they are all skinny (uk size 8 i would say) they really dont know what dieting to lose weight feels like. (Forum E)*

In some cases, women felt too embarrassed to talk to their family and friends about their UWL drugs and instead appeared to feel more comfortable having this discussion with other online forum users.

*I haven't told my family or friends (or even my partner) that I am taking reductil as I find it embarrassing to talk about my weight but am sure that I won't feel that way talking to fellow slimmers (Forum H)*

Despite this, the forums could be equally judgemental in how forum users viewed UWL drug use. This was apparent both in how women discussed their drug use (concerned over being judged) and often in how others responded.

*So I figure that I will get a lot of flack for this (Forum E)*

*You're citing banned, illegal substances along side other addictive herbs and such? Come on man...it's about health - not what will enhance performance at the expense of health. (Forum F)*

This type of negative response was most often evident on forums that promoted fitness or healthy eating. In these instances, it was apparent that some women were frustrated with the number of threads and posts discussing UWL drugs and instead advocated for what they considered to be healthier options. This often led to aggressive dialogue between those who used UWL drugs and those who did not.

*Don't post the millionth thread asking about appetite suppressants and not expect to be 'judged' (Forum F)*

*I don't expect everyone to be okay with me taking a pill, but at least the numerous other people were still helpful with advice and not so cold hearted and downright rude! (Forum F)*

Often, women argued that others judgement on the forum was due to their assumptions for why people used UWL drugs, such as laziness or a quick fix.

*People are such haters on here..don't mind them People who JUDGE others have something obviously going on in their own life, because in my opinion its never our place to Judge. They make ASSUMPTIONS that diet pills are an excuse and a way out and cheating ETC ETC. (Forum F)*

When discussing DNP in particular, women appeared to be frustrated with those who 'hadn't done their homework' believing them to be looking for a quick fix, risking their health and engaging in dangerous behaviour.

*Are you actually mentally retarded? If you don't know the BASICS of dnp how do you expect to run it and not completely shrek yourself? How about before using a lethal substance you try putting the fork down and not being a fat land whale. (Forum J)*

*DNP whilst it isn't FDA approved is used by Body builders more than you might image, also used by female. Moral of the story, whatever you say people can turn it around and do stupid \*\*\*\*. (Forum F)*

#### 5.5.5 Polypharmacy: *Girl i am the QUEEN of diet pills!!*

Many women discussed the use of multiple UWL drugs. In some cases women stated that they had 'been on every pill imaginable to lose weight'. Others discussed a clear progression of weight loss drug use moving on to new drugs or supplements when they were not seeing the weight loss results they were after.

*I have been on every pill imaginable to lose weight, xenical, reductil, as well as various herbal products, I also tried some dodgy speed type drug (Forum H)*

*i have tried hoodia which didnt work for me, i have tried thermobol which worked but i didn't like the side effects, I'm now trying hydroxycut on my second tub of tablets and haven't lost anything, go to the gym nearly every day always eat healthy and nothing seems to work! if any one has any new tablets they could recommend that would be great. (Forum I)*

In some cases, women felt that their bodies had become tolerant to a particular UWL drug. In these cases members often reporting switching to a different drug.

*I notice that my body adjusts to these quite easily and when that happens I usually start a completely different set of pills. Comments? Suggestions? (Forum E)*

Others discussed how they used UWL drugs concurrently, sometimes cycling them. In one case a woman discussed how they used DNP but found this increased their food cravings so they also used sibutramine to help in reducing their appetite.

*I have been taking both sibutramine and rimonabant. Now you can't take these at the same time!! I go in shifts. 4 weeks on sibutramine and then three on rimonabant. (Forum F)*

*But there's sibutramine to help with cravings anyway, so no problem. (Forum J)*

Women often discussed using supplements alongside DNP to help them cope with the side effects of DNP. Others argued that supplements were not essential but advised the use of vitamins alongside DNP use.

*The first day I took my supplements, drank loads of water, followed my diet, and I took DNP at night with a melatonin pill to help with the swears. (Forum J)*

*You don't have to use supplements during it, long as you get your usual vitamins. (Forum J)*

#### 5.5.6 Purchasing: *Do you mind pm'ing me where you got yours from at all?*

There was much discussion on forums about where women should and should not purchase UWL drugs from. Most often women stated that they had purchased their drugs online, often after having had them recommended.

*I'm losing weight with Acomplia It's an appetite suppressant that I was recommended by an old friend I managed to buy a supply of these pills online and started them right away. (Forum G)*

There were many instances of women asking for recommendations of where they should purchase their drugs. In some cases, women described how they were struggling to contact those who had previously provided them with UWL drugs and often expressed frustration at this. Whilst other women did often make suggestions, there were instances where members warned of the dangers of buying drugs online. Some women specifically asked for websites which did not require a prescription, suggesting that they would not be eligible for weight loss drugs available on prescription or that they did not think those drugs effective enough.

*Hey, do you mind telling me where you got yours from at all? I cannot seem to get replies from [seller name], [seller name], [seller name], or anyone! I'm about ready to tear my hair out! (Forum J)*

*What else is good for quick weight loss? supplements? names and where I can buy them...im desperate. (Forum B)*

*Be very careful buying medication online. (Forum B)*

*What online site is best to get diet pills from without a script. (Forum C)*

Other women were looking for UWL drugs which were inexpensive. In these instances, price appeared to be an important contributing factor in purchasing.

*[They] cost about £50 for 40 days, anyone knows any cheaper ones ? (Forum E)*

*I've been trying to buy Reductil. I've used it before and think it is good and doesn't cause any side effects. The only place I found online sells it for nearly £130 for a months supply. I think this is really expensive. Does anyone know where I could find it cheaper? Thank you! (Forum H)*

Women often spoke of the convenience of purchasing UWL drugs online and often cited the price as being reasonable. Also of importance appeared to be ease of using the website, seller discretion and the effectiveness of the drugs.

*I had a good experience with Acomplia diet pill... I purchased my pills from an international website: [name of website] - this source offers the best prices Ive found (Forum I)*

*He's very discrete and it arrived quickly. (Forum J)*

*In almost 1 year I achieved the sizes I wanted. I have been buying my acomplia pills from [name of website]..overall 100% satisfied with this site and their products! (Forum I)*

In some instances, women appeared to have an awareness that purchasing drugs online may not be a safe option. However, testimonials and feedback from others appeared to help alleviate some of their concerns. Some women also sought feedback from other members that the drugs they had purchased were the correct drugs.

*I wanted to get down from 11 stone to 10 stone and I bought some weight-loss pill on [name of website] (yes, I know!) but I'd looked at reviews on the internet and at the seller's feedback and people were saying they'd lost 4 or 5 pounds in a week, so I thought I'd give it ago. (Forum D)*

*Stupidly I got some Rimonobant online from India (Forum H)*

*They are a small round tangerine orange pill with a imprint of an octagon on one side. The reverse side is blank (no numbers, nothing) They claim to be the european equivalent to meridia (that's what I've been told) Just double checking to be sure. Thanks so much. (Forum B)*

There were some instances where women were very negative towards those asking about purchasing UWL drugs likening their behaviour to scoring drugs and arguing that the forums were not the right place for discussion of this nature.

*This is NOT a web site for scoring illegal drugs. Online pharmacy links like you're looking for are deleted here as fast as they get posted. You sound like a kid looking for some speed. I suggest you seek help for yourself before you end up in trouble. (Forum B)*

Some women were also concerned that buying drugs, particularly unlicensed drugs online was dangerous due to a lack of knowledge concerning the side effects of these drugs, lack of involvement from a health care professional and also potential interactions they may have with other medication. There were also concerns around whether the drugs being sold online were genuine products and many discussed the high number of 'dodgy' or 'fake' drugs which were sold online.

*She bought them online or off the street. At least if you buy legal medication, the side effects can be monitored by a doctor. (Forum F)*

*Unfortunately there is a lot of dodgy diet pills available on the market so be careful. It would be awful to hear something that happened to you over the sake of a couple of pounds. (Forum H)*

*My advice would be to make sure that you have a medical person check you and be careful buying over the internet. (Forum I)*

*If you bought them online then there is a good chance that they were fake. They could have been anything! (Forum H)*

There was also some discussion around UWL drug sellers 'preying' on people who were desperate to lose weight in order to make money. Some women did appear to conform to this image of an UWL drug user, seeming desperate to try anything and wanting it quickly in order to lose weight. Some forum members who were selling UWL drugs appeared to specifically aim their products at women.

*There are genuine sellers but because us dieters can be desperate at times we are unfortunately preyed upon those who want to make easy money (Forum H)*

*I'm very interested in buying 20mg pills. Is there any way to buy them online quickly? I'm desperate to start reductil asap. (Forum I)*

*i am looking into bringing reductil over to girls that need it. (Forum I)*

*hi ladies, i have authentic reductil sending at a price almost half of what to web sites are selling. (Forum I)*

Whilst often frowned upon by most of the forums, some women did use the websites to promote particular sellers. In some cases, members explicitly stated that they were the seller, however on some occasions it was unclear whether the person posting was a UWL

drug user or were actually an UWL drug seller. There were also instances of those selling UWL drugs dissuading users from other sellers whilst promoting themselves.

*We can supply Rimonabant for the best price and best quality. if interested, e-mail: [email address] (Forum B)*

*if any one is looking for best diet pills and any type of pain relief or muscle relaxant pills then go now [name of website]. (Forum I)*

*if you were to go the websites like [name of website] their prices are a total rip off. (Forum I)*

## 5.6 The UWL drug user

This theme explores the assumptions members had around who uses UWL drugs, in particular focus is given to the idea of the informed user as well as differences in how female and male UWL drug use is viewed.

### 5.6.1 The Informed User: *Research and Respect DNP, and it is a powerful tool*

There was much discussion online about who women felt should be using UWL drugs. Whilst this discussion was limited for both rimonabant and sibutramine, it was prominent for DNP, most likely due to it being perceived as the most dangerous drug. Many forum members argued that DNP should only be used by those who were in the bodybuilding industry due to the dangers associated with its use. Furthermore, some members argued that drugs like DNP would only be effective for bodybuilders or athletes.

*its a really dangerous drug,, its not to be used for people that don't have experience in the bodybuilding industry (Forum A)*

*a national champion bodybuilder probably using drugs like clenbuterol, T3, DNP, etc to help with their weight loss. But for the rest of us, any effect from it will be so small it's not worth worrying about (Forum F)*

Many on the forums appeared to classify DNP use as only associated with bodybuilders or elite athletes arguing that both UWL drugs and advice from these groups were not suitable for the 'average person'.

*There are some pills that professional body builders and fitness competitors take that don't require diet and exercise to lose weight. Look up DNP for example. (Forum F)*

*a high-level or pro bodybuilder is the worst possible person for the average person to take advice from. Firstly have superior genetics in the first place (or they wouldn't be competing at that high a level). Secondly, they're about 99% likely to be juiced to the gills (on steroids/PEDs). (Forum F)*



Others argued that it should only be used by those who had an understanding of the pharmacological properties of the drugs.

*DNP is not safe for kids, or anyone without proper knowledge of chemicals (Forum A)*

Most frequently discussed was that DNP should be well researched and respected by those who used it and should really only be used by those people who know what they are doing.

*if you do decide to use these compounds PLEASE do thorough research and consult with someone who has done these cycles before. (Forum A)*

*Do lots of research, and don't rush into it. Make sure you find a reputable place to get it from and then make an informed decision. (Forum J)*

*If you KNOW what you're doing and are realistic about what to expect then DNP is very powerful powerful fat loss drug. (Forum J)*

5.6.2 The uninformed user: *If I took a Ferrari and crashed it at 100 mph would you stop buying cars?*

Forum members were often very critical of what they classed as novice or newbie DNP users. There were many instances across forums where women would ask about using DNP and were told it was not suitable for them to use. Others appeared frustrated with new users apparent lack of knowledge or respect for the drug.

*You can lose 20 lbs in 11 weeks with just good diet and OTC fatburners. I don't see the need to go as far as DNP to lose 8 lbs, esp as a first time competitor. (Forum A)*

Often new forum members posing questions about UWL drug use were met with conflicting, and in some cases incorrect, advice for new users

*Do you really want to be suggesting DNP(2,4-Dinitrophenol) and Clenbuterol to the OP? She's a first-time competitor trying to lose 7-8 lbs and you suggest Anabolic steroids to her? Are you serious?! (Forum A)*

Of most prominence was discussion centred around the idea that uninformed users ruined DNP for everybody else. Many argued that those who used UWL drugs incorrectly, took a too high dose or had not done their research exacerbated negative attitudes towards this drug.

*The reason diet pills get such a bad image is because some people overuse them. (Forum E)*

Media reports of deaths following the use of DNP were also discussed and in some cases the argument made that those using had not died from using the drugs but rather from using the drug incorrectly.

*Did she die from the pills? Or from taking to many of the pills?* (Forum H)

There was a great deal of disdain for members who had suffered ill effects following UWL drug use.

*Yeah, natural selection at its best* (Forum J)

*Lol yeah, unfortunately no matter how many clever people there are, we will always be in the minority* (Forum J)

In some cases, women appeared frustrated that they were judged for using UWL drugs or had difficulty accessing them due to other people not using them correctly.

*I can't get "diet pills" anymore because people are too f\*\*king retarded to follow directions.* (Forum F)

*If I took a Ferrari and crashed it into a one at 100mph would you stop buying cars? Of course not, so why apply the same logic to supplements? People used the product wrong and they died. Warning labels are put on products for a reason.* (Forum F)

#### 5.6.3 Males only: *"You sound like a young inexperienced woman"*

When considering sibutramine and rimonabant, there did not appear to be any discussion from forum members around whether these drugs were predominately male or female drugs. For DNP however, there were instances where it was argued that these drugs were not suitable for women. Whilst this research focused upon female discussion, male discussion of the female use of UWL drugs was also evident, particularly on forum J when discussing DNP. In some cases, male forum members discussed how they did not want their girlfriend or wife to use DNP due to increased risk of side effects or because they thought they were using DNP for the wrong reasons. In some cases, members discussed a woman's role as a mother and how her risking her safety would affect her child.

*Some research suggest that women have a higher chance at cataracts* (Forum J)

*You sound like a young inexperienced woman trying to lose weight the easy way. this is not for you.* (Forum J)

*I did discuss dnp with my girlfriend and she wanted to try it. Initially she just saw it as "fast weight loss loose 10lbs in a week? Sign me up! I'll take twice as much as loose 20lbs!" It's this reckless attitude that is the exact reason I will not allow her to take it.* (Forum J)

*DNP is dangerous. very dangerous.. and with a son if you do something wrong he will be without a mother.. or if something bad happens who will watch him while your in a hospital or if you have PN and cant walk who will play with him. (Forum J)*

Some male forum members also felt that women did not use DNP or other UWL drugs at all and instead were focused only on herbal supplements.

*I don't think a lot of women use dnp, they're more bothered about bullshit ketone supplements...or other ineffective money sinking crap" (Forum J)*

Despite this, many women did discuss the lack of information available for women who were using DNP and the lack of female experiences and perspectives.

*Online we need more DNP experiences by women so hello there (Forum J)*

*I researched DNP really well, but there are few testimonies for women. (Forum J)*

Whilst women providing information on drug cycling and logs were generally received positively, there were instances where women felt that their DNP use was being judged negatively simply because they were a woman.

*I'm a female and thank you for publishing this log. It's great to have multiple resources. I've been having trouble figuring dosage for women. (Forum J)*

*I saw 2 men discussing who were obese and using DNP to lose weight. Nobody had a go at them. Nobody called them names or said they were lazy. Nobody questioned their diet or eating habits. Yet I get totally blasted because I'm using DNP as an aid to help lose some weight. I think you may have a problem with women. (Forum J)*

## 5.7 Chapter summary

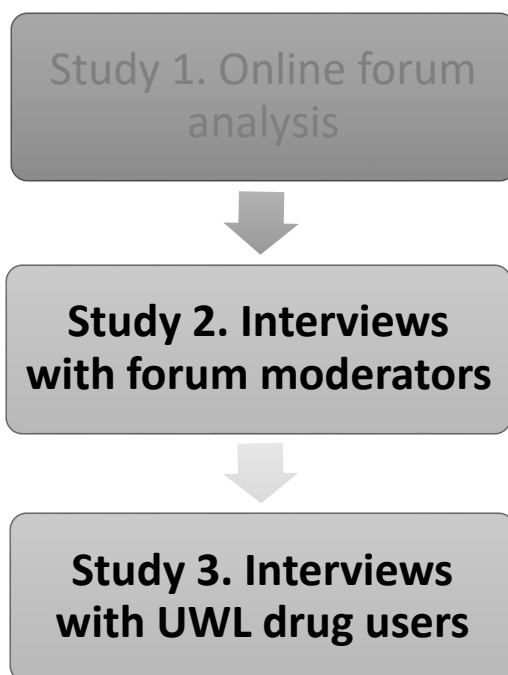
This chapter has provided an overview of online discussion concerning UWL drug in women, in particular identifying motivations for use, attitudes towards UWL drugs and side effects from use. The next chapter presents case study interviews with forum moderators and UWL drug users.

## Chapter 6. Interviews with forum moderators and weight loss drug users

### 6.1 Introduction

Within this chapter, case studies are presented from interviews with four forum moderators (study 2) and three UWL drug users (study 3; figure 6).

*Figure 6. Order of research studies*



### 6.2 Forum moderator interviews

Forum moderators were recruited from online forums used in the online forum analysis or forums which had a similar purpose.

Despite forums being selected for inclusion because they had a high female presence, all moderators recruited were male. Those managing the forums and often viewed as the 'experts' were overwhelmingly male. This mirrors the limited female experiences of UWL drugs within the forums, particularly for DNP use. Interviews are presented below as case studies.

6.2.1 Josh: *"If you're a guy and you're known as a bodybuilder they're going to hit you up before they hit up any researcher who looks flabbier".*

I interviewed Josh<sup>30</sup> through a Skype phone call, as he did not want to video chat. Josh also did not want to reveal his name so throughout the interview I referred to him by his online user name. The interview lasted approximately an hour and during this time I found Josh to be incredibly contradictory and frustrating. At times, I really struggled to know how to respond to some of his statements, particularly his comments concerning women and people who were overweight. However, despite my unease interviewing Josh, he did offer some very useful insights into online communities, which I could not possibly have gleaned from just viewing the forum. In particular, Josh told me that on his forum, which he has moderated for around two years, he operates under different user names. The user name I recruited him through was his moderator name, but he also operates as a seller on the forum under multiple different accounts. Whilst there was no way of me knowing this prior to the interview, when I realised I was excited and interested to have the opportunity to talk to someone who supplies DNP as well as being involved in discussion about it. The original reason Josh set up his forum was so that he could sell DNP: *"Well I wanted to find another audience to sell DNP to"*. During the interview, he discussed quite candidly his experiences of selling DNP, stating that he gets a few hundred email requests a week with 5% of these being from women and a large proportion being from men (supposedly) asking on behalf of a female partner. Josh discussed *"disaster stories"* from females using DNP such as deaths within the UK, however he argued that incidents like these were not his fault saying *"it was their fault for using it so (laughs) oh well but people have died and people have gone infertile, like women, you know"*.

Josh is based within Europe but outside of the UK. However, he frequently sells DNP to the UK saying he sells *"tons, the Anglosphere is huge for those things, most of my stuff goes to the Midlands and places like that"*. He talked about how in the past it was quite difficult to get drugs through customs but he had become wise to which entry points to send it through and where it was least likely to be picked up saying *"if you put a note on it saying it has to ship through blah blah blah entry points you can send it through the areas they put all the affirmative action selection things so they'll never catch it because they're*

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<sup>30</sup> Due to Josh's case study being detailed and due to him illegally selling UWL drugs, I am not revealing which forum Josh was recruited from in order to protect his anonymity.

*incompetent now. Like send it in through London and there will be a Muslim guy going through going oh this is normal it says creatine, it must be creatine, it's yellow and boom boom boom never catch it."*

Originally, the main area of Josh's forum included discussion on the acquisition of DNP however, Josh banned this conversation on the main forum and moved it to a private section of the site, the digital equivalent of moving his drug sales to a back room. This was because he was concerned about other members of the site reporting DNP sales: *"[The forum focus was] initially about acquiring it but I started banning that and made it so you had to go to the [private section] on [name of forum] which is private to get in because way too many narcs exist on [name of forum] like oh is this guy going to shift me I'll get his address and report him to the FBI or something like that".*

Beyond the buying and selling of DNP, the forum also shares health advice. Josh seems quite sceptical of much of the advice being shared on his forum arguing that much of it is not useful and that *"most of it is silly shit on the forums"*. In his guise as moderator, Josh closed down discussion on any topic of which he disapproved. This included discussion concerning herbal weight loss products as he does not believe they work saying *"nothing herbal because I tend to ban retarded discussion"*. He also bans discussion around holistic diets calling those people *"hippy dippy retards"* as well as suggestions for people to follow a vegetarian or vegan diet stating *"If I see people recommending shitty diets like go vegan, you're going to get anaemia, you're going to be fucked up absolutely"*. For those members who reported negative effects from using DNP or who argue that DNP does not work, Josh states that he closes down this conversation as it risks his sales and because he believes those suffering ill effects following DNP use do so because they do not take the necessary supplements: *"A lot of times I do shut down naysayers not because they're wrong or anything like that but I say it because I want to make sales (laughs)...I do leave the ones who have legitimate things to say like I've got a cataract or something but if it's because they didn't use the supplements I recommended then they're retards, it's all their own fault"*. Josh does take time to offer DNP users advice on which supplements they should take whilst using DNP saying *"I tell them, take your Vitamin E, take your zinc, take your pyruvate, take selenium, take taurine"*. However, his comments concerning shutting down those who had negative experiences of using DNP really concerned me. Prior to this

interview, I had assumed that forum moderators were thinking about the best interest of their forum members and would only close down threads if they contain information that could harm or upset others or went against the rules of the forum. Josh, though, appeared to be more concerned about his business selling DNP and other drugs than the safety of those on the forum. His hidden role on the forum made me feel that he was abusing a position of trust and power and made me question ideas I had around forum moderators making ideal peer educators in online harm reduction.

Conversations that Josh does promote and encourage on his forum are what he terms *"high science"* and he is keen to make information on his forum simple and accessible explaining *"I really hate people who either make what they say too complicated and they don't help anybody...so I go in and put a simple explanation"*. He is also keen to ensure that the advice being shared is what he views as correct advice saying *"these people who say don't drink while you're on DNP like woah woah woah you're going to die, absolutely going to die...they recommend these things and I usually shut them down...they're completely counter to the advice I give"*. Josh comes across as intelligent and had vast knowledge of bodybuilding and pharmacology having had experience as both as bodybuilder and a chemist. However, I felt that he considered himself a guru and that only his advice was worth taking.

Josh argues that a lot of the advice on forums about DNP is not geared towards women or as he puts it *"we advise based on a male norm model. Basically every bit of advice you'll ever find is about how it works in a man which is different for how it works in a women and we might be saying oh take 250 to start whereas for a woman that's going to make you throw up your guts"*. This is something I have seen throughout all the forums. Whilst I have presented, as much as possible, forum posts I know are from women, these are still in the minority and frequently I have seen calls for more female experiences to be shared. When asked about how to specifically minimise risk in women, Josh argues that there is not really a solution because women take drugs like DNP because they're unhappy and want to be pretty saying *"well I mean women have body image issues way more now because they're unhappy. If you want to be realistic and you want to protect women the most you take away women's rights (laughs) that's not really a viable option though. No I think as society becomes more and more shallow you're going to see more and more girls dying from these"*

*drugs*". Josh argues that in Western culture there has been a shift from defined gender roles which has resulted in women being unhappy and that this contributes to higher numbers of DNP deaths in the UK: *"really you'll never see a DNP death in like Saudi Arabia where the women are happier, you'll never see a DNP death where there are traditional social morays for the men and women because the women in those cultures are so much happier"*. It struck me that Josh was oversimplifying this issue given what I had learned about the many pressures on women to look a certain way and the varying motivations for why women use UWL drugs.

Josh believes that most people who use his forum and are using or considering using DNP, are not based within the fitness or bodybuilding industries, *"Umm actual bodybuilders are in the minority of people using"*. Instead, Josh believes that most DNP users *"just want to lose some weight, they're really lazy people who don't have anything going for them and can't put in the time to cut naturally so they think I'm just going to take a short cut"*. It was unclear, however, whether Josh still supplied DNP to people he did not think should be using it as he also argued that for those who were overweight he would tell them to look at their diet first, for example, *"you're going to go on my forum asking oh how do I use DNP, I'm 300 pounds and I want to lose 20 pounds in a week, fuck off buddy, it's ridiculous...No I generally tell people for your diet, if you're a big fat ass, if you want to lose weight quick, do protein sparing modified fast"*. Whilst Josh sells a range of enhancement products, he says he does not deal in appetite suppressants like sibutramine and rimonabant because people misuse them and he believes that their use demonstrates a lack of self-control. Josh regularly posts under his selling user name advertising a particular product and then validates himself under his moderator username *"I always recommend oh [Josh selling user name], on the forum I stick in my own [moderator account]"*. These admissions in particular I found quite surprising and difficult to respond to as Josh appeared contradictory in his views. He sold DNP, had previously used DNP and moderates a forum of which the primary focus is DNP but appears to have real disdain for those who he sells DNP to.

However, Josh later stated that most DNP users were "skinny losers" who think *"oh I'm going to slim down a little bit more before I bulk and they're already like way too slim, they need to bulk up"*. He also discusses the use of drugs such as DNP within those competing



in natural bodybuilding competitions stating that *"I get plenty of messages from so called natural bodybuilders asking about it [DNP], nobody is a natural bodybuilder, there's no such thing. The competitions are always rigged by somebody who cycles"*.

Despite Josh having negative views of those using DNP, he believes that other forum members view discussion relating to DNP *"Hmmm positively, a lot of the people don't view it as like a cop out you know, I view it as a cop out but I don't care, it's money"*. In particular, Josh argues that women should not use DNP as it presents more risks than it does for men: *"It is much more dangerous for women to take DNP...it can cause women to go infertile, it'll cause a man to lose weight and that's it but for women it has way more things it can do"*. Josh argues that those using DNP should do their research first and if they do not then they should not blame others when things go wrong. I felt that Josh held quite misogynistic views. He commented on women being less likely to know what they were doing and therefore more likely to complain to him when things went wrong as well as needing a male to help them use DNP correctly stating *"That's another thing I see with women like with men a lot of the time they'll take responsibility and just be like oh shucks well sorry I didn't take your advice but the women they'll usually complain to me or threaten me for money back and things like this but no that's ridiculous, they hurt themselves way more and I think they don't listen to my instructions as often either unless they have a guy administering it."* One interesting point to come from Josh concerned the varied advice on different forums. Josh also moderates another forum and he argues that the advice from forum members is very different there, perhaps due to increased anonymity on this other community: *"On [Other forum Josh moderates], they would usually encourage the women to take it because they'd say don't be a fatass and things like that. On [Josh's main forum], they would tell people more often not to take it or to take extra precautions... cause on [other forum] its anonymous nobody really cares and you can't be tracked down for being a jerk or something like that"*. Josh's comments here made me consider the different types of information and advice people considering using something like DNP might get depending on which online forum they happened to click on.

I was keen to get Josh's views concerning how harm reduction information could be shared across online platforms to those people who are using DNP or other weight loss drugs. Josh does think that online forums can be useful places to share good quality information

however sometimes this can be lost due to the large volume of poor quality or anecdotal information, *“A lot of time you’ll get better advice than your doctor not even joking. Sometimes you will get really good advice but a lot of time you will not get advice, you’ll get trolls, you’ll get people who are going based on their anecdotal experiences”*. Josh also discussed how an advice page he made about how to use DNP safely meant that others on the forum were aware of issues concerning DNP that they may not have been aware of otherwise saying *“if people did not have my original post from years ago, there would be so many people that would a) not use DNP because they didn’t know about it but they also would not know how to prevent things from happening or would not know about the side effects because they’re not really that public”*. I felt it was interesting however, that Josh felt that without his forum and his posts that people would not have been aware of DNP at all. Josh did not think that researchers or academics could really play a part in harm reduction because they would not be taken seriously due to them not having the right physical aesthetic. Josh felt DNP users will only respect and take advice from those who look the part saying *“they’re more likely to listen to other users especially if they have pictures of themselves like if you’re a guy and you’re known as a bodybuilder they’re going to hit you up before they hit up any researcher who looks flabbier”*. He suggests that to have your advice taken seriously then first *“you’d go to the gym and get really sexy then you’d start posting and then you’d be like I have great experience here”*. However, despite Josh arguing that people using DNP are more likely to take advice from other users who have a good physique, he does not think advice through peer educators is the way forward. Josh expresses concern about people sharing personal experience and this being used as advice for all to follow :*“I think it’s very dangerous when people start using their anecdotal experiences to give recommendations because they do not take into account that everybody is generally different”*. However, he does think that someone with a good knowledge base and understanding of the drug such as himself should make sure that relevant information is being shared saying that *“I could probably serve to make more posts and promote them and make sure people actually understand the drug. People always read that and that’s where the majority of the health advice comes from. Not from studies, not from individual experiences, not from anything else it’s from reading that one post when the first line is if you use this drug wrong you will kill yourself, you will die, stuff like that and it’s really blunt”*. Josh had previously mentioned a lack of advice for women so I asked him whether he thought a female only weight loss drug forum would be useful. However,

Josh felt that this would not work as men would use it in order to find women *“everybody would regard it as a honeypot, it would not get any traffic”*.

I found interviewing Josh an extremely difficult process. Not only did I feel incredibly uncomfortable with his deception in order to make money, I also felt that this interview should sound alarm bells for anyone considering using online forums as a way of promoting harm reduction or sharing information and advice. Whilst Josh came across as knowledgeable about DNP and other human enhancement drugs, his dual role as moderator and seller means that he has conflicted interests in reducing harm. This is particularly evidenced through his comments regarding removing discussion around negative DNP experiences, due to the impact this could have on his sales. What is of most interest from this interview is that simply by analysing online forums I would not have been able to pick up on Josh’s duplicity. It was only through his own admissions that this became evident. Whilst I was surprised at how open Josh was, it made me consider just how much I could get to know about the forums by only analysing posts. Whilst online harm reduction might still be feasible, it can only take place in a community where there is trust and transparency between members and moderators and where the safety of forum members is the main consideration of the moderator.

6.2.2 Mark: *“We aim to facilitate a substantial long-term harm reduction (by losing weight, getting healthy, feeling positive)”*.

Mark is a moderator on a drugs forum, which was not one of the forums analysed in my work. The forum did come up during my selection process but was excluded due to a small UK audience. I was really keen, however, to speak to Mark as I knew his forum had sustained and regular academic input and I was curious as to how this worked on a forum with a focus on illicit drugs. I was also keen to speak to Mark because I knew this forum had a focus on harm reduction and I was interested in gaining an understanding of how this worked and what the successes and challenges of it were. Whilst I had gone through threads on this forum, before I spoke to Mark I hadn’t gone into the same depth as I had with other forums and I did feel that I came to this interview with less understanding of the community Mark moderated than I had in other interviews. Mark requested to conduct the interview through Skype chat and one of the first things he asked was how my

research was going, stating that I had not chosen an easy area and expressing surprise that I had managed to recruit any moderators given the *“massive culture of denial”*. This was something I had repeatedly seen throughout recruitment, with automatic bans from forums for simply contacting moderators to ask if they wanted to participate in my research as well as denials about UWL drug discussion taking place. Mark however stated that he did not have any *“no-go areas”* and I could ask whatever I wanted. Whilst this presented a good opportunity to explore UWL drug discussion on forums and the role of the forum within that, I was also aware that this was not the norm within this particular community.

Mark has been a moderator on his forum for around two years and the forum was already well established by the time he joined the team. Mark is a bodybuilder and weightlifter and also has high level knowledge of pharmacology. He believes he was asked to be a moderator because of the reasoned and scientific harm reduction content he was posting. Mark said that too many people on the forum just *“regurgitate copy-paste information published elsewhere online”* and that he had to fight against entrenched views, which have no basis in science. Whilst sometimes Mark feels that when giving advice he is *“pissing in the wind”*, he also spoke about *“times others have taken advice and acted upon it directly”* as well as noticing harm reduction information filtering through the forum. I asked Mark what skills he felt were needed to moderate a forum such as his. He felt that his knowledge and personal experience offered insight into different approaches and ways of sharing information. Whilst having a scientific background could be useful to put across arguments, Mark felt that this could alienate people who just wanted *“simple yes-no black-and-white answers to sometimes very complex and contingent questions”*. One of the issues Mark encountered was people who just wanted to be told what to do and did not *“want to have to make choices from a selection of reasoned arguments and take personal responsibility”*. Mark felt that sometimes his complex and reasoned arguments were sometimes ignored for responses which gave the *“simplest, most straightforward answer”* and Mark said that he spent much of his time trying to think of ways to simplify his responses and make them more palatable. Mark also felt that empathy was very important, arguing that *“if you can't understand what people are trying to do or achieve, and how they go about trying to achieve it, you won't know how to connect with them and help them make better, healthier choices”*.

I asked Mark to talk specifically about some of the information shared on his forum concerning UWL drugs. He said most of the focus was on clenbuterol and DNP with less (but still occurring) discussion around sibutramine and rimonabant and very little of this coming from women. It was Mark's opinion that women may be more likely to rely on *"social networks - e.g. private Facebook groups, rather than fully public forum as public male dominated forums were pretty hostile places"*. I was not able to access private Facebook groups as part of my research<sup>31</sup> and it may be that female UWL drug discussion is more prominent in these groups.

When talking about forum discussion content Mark stated that most concerned *"how to use/what dosage should I take/what should I combine [drug] with"*. Most UWL drug discussion on this forum is viewed as *"perfectly normal"* however often forum members will *"query the diet and exercise regimes of the questioner before answering in any detail"*. I asked Mark whether there was any discussion that forum members would be less tolerant of and he said that this did happen with DNP often being *"frowned upon by most forum users"*. However, again this was only when the person asking did not have an adequate diet and exercise regime because it was viewed as a quick fix that would not last without *"control and a suitable systematic approach to the lifestyle that led them to seek weight loss drugs in the first place"*. Mark stated that weight loss discussion varied on the forum and ranged from caffeine, guarana and yerba mate to growth hormones as well as UWL drugs. Mark felt that products such as guarana were seen as *"healthier alternatives to prescription or controlled substances"* and discussion of these included more women as they were considered *"easy to use in a more 'casual' way and less requiring any overall lifestyle overhaul"*.

Mark stated that, from a moderator and harm reduction perspective, he would advise against UWL drug use, particularly if he felt that the forum member could meet their objectives by lifestyle modification. However, Mark also had an awareness that some members will use these drugs regardless and in these instances he would *"steer them into*

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<sup>31</sup> The reason for this was an ethical consideration. They are not publicly available spaces with these spaces usually set to closed or secret. Closed Facebook groups can be seen by anyone but the content of them cannot be seen. Secret Facebook groups are not public at all. Approval/invitation is required in order to access content.

*a least-harmful usage protocol and attempt a kind of 'compromise'*". When discussing how he impacted on forum members Mark discussed how there would often be *"back and forth"* with members *"taking the advice seriously and attempting to understand and learn"*. However, he also discussed the times when forum members stopped responding and in those cases, Mark felt that his advice had been ignored.

I asked Mark about situations when he would close a thread or intervene. Mark told me this mostly happened when posters advocated *"frankly dangerous and/or harmful protocols"*. However, in most cases Mark said they would try and bring the discussion to a less risky place and only if they could not achieve this would the thread be edited or closed. There was also a reluctance from Mark to close threads entirely, quite often he would edit a thread and leave it open as an example to others of how not to use these drugs. Advertising or selling drugs on the forum is prohibited and the promotion of certain websites for purchase was also not allowed so threads doing this would be closed. For threads which were abusive or judgemental, Mark said he would also often close these threads.

Mark went on to say he believed that anonymity on forums meant that people were harsher in their judgement and argued that this is why he felt women in particular were less likely to post. Mark felt that there was often an assumption on the forums that women were more likely to be taking a short cut and had not resolved their lifestyle issues first. Mark did not personally agree with these assumptions arguing that increased female numbers were because *"pressures on women to conform to a certain idealised body type are much stronger"*. These communities being more male orientated repeatedly emerged during my research. However, I am also aware from other interviews that women may be more reluctant than men to talk about their UWL drug use so it not wholly clear what is causing lower numbers of women on online spaces.

Despite this, Mark felt that women specifically asking about UWL drugs would not be judged any differently and there was no *"preconceived notion that one gender can use PEDs but not the other"* with *"women asking questions about fat loss drugs being actually perceived as a normative-type question"*. This view differed from other interviews and forum discussion where women were judged more harshly for their UWL drug use,

however it was clear that gender divides did still exist on Mark's forum with only some drugs being deemed suitable for female use. For example, Mark felt that women discussing steroids would be met with resistance on the forum and this would be due to *"the assumption that the female gender should be feminine and not masculinised through the use of androgens"*.

We had already touched upon this in the interview, but I wanted to know what type of discussion Mark would be really keen to promote or facilitate on the forum. Mark did not appear to have an issue with people using drugs to assist in weight loss but it was evident that this should not be the only method. Mark was really keen on promoting discussion where *"someone is trying to turn around their health and become fitter, and is attempting to use a weight loss drug merely as a small part of an overall equation and lifestyle change"*. Mark was keen to promote the creation of a *"sustainable platform for long-term change"* to ensure that *"the drug won't simply become a crutch upon which to experience incredibly unhealthy yo-yo dieting"*. Mark went on to say that losing weight, whether this was with the assistance of a drug or not, was helping a person to *"facilitate a substantial long-term harm reduction (by losing weight, getting healthy, feeling positive etc)"*.

I thought this was a good time to ask Mark about harm reduction on his forum. Mark felt that there was a *"disjuncture between the medical profession and the real-world use of PEDs and fat burners"*. He said most people are becoming aware that GPs know nothing about UWL drugs and thus turning to forums to access information. Mark felt that more trained healthcare professional presence was needed on the forum, with a focus on nutrition and lifestyle as well as how the drugs work. Perhaps surprisingly, Mark did not feel that forum moderators should be used as peer educators because they were not required to pass any rigorous training for their role. Furthermore, Mark felt that their role granted them *"(potentially) undue influence over people coming to forums"*. Mark also discussed the academic influence on the forum, where research is carried out by researchers and then the findings of this research are filtered down through the forum. Mark stated that at the time of interview there was no researcher employed with a focus on enhancement drugs but this would be something he would be interested in seeing happen.

I found my interview with Mark incredibly positive. He obviously had a lot of knowledge but also realised that his suggestions and responses was not the only perspective and had an awareness that sometimes his advice would not be suitable for all. I was surprised that Mark did not think forum moderators should not be peer educators as I felt someone with his experience, understanding and empathy would be the ideal person for such a role. However, I was enthused by Mark's lack of self-importance as I felt he really wanted what was best for the forum and its members rather than trying to promote himself as an online expert. It was also interesting that Mark did not see his forum as containing much discussion from women, and he felt this was due to online forums being hostile towards female UWL drug users. Instead, Mark felt that women would be more likely to discuss UWL drug use in private Facebook groups. Whilst I had originally felt that online forums would allow users to be more open about their drug use and experiences because of the anonymity they offer, Marks interview suggested that the reverse was true with people being harsher online because they are anonymous. For private Facebook groups, I had considered these less likely to contain UWL drug discussion due to user profiles being linked to personal identifiable accounts. However, the fact that these groups require an invitation to join meaning that everyone allowed to access has to be given permission perhaps would offer an environment in which women felt freer to discuss UWL drug use.

#### 6.2.3 Troy: *"Giving advice on harm reduction is like banging your head upon a wall"*

Troy is a moderator on a drugs forum, with a focus on all drugs including UWL drugs. Troy originally responded to a post I had placed on his forum asking for moderators to take part in my study and seemed interested in being involved. Despite this, Troy proved incredibly difficult to interview and over a period of four months, many of my emails to him went unanswered. Eventually, I decided to email Troy the interview schedule in the hope that I might get some level of response. Troy did then respond and answer the questions on the interview schedule through email, however his responses were minimal. Unfortunately, subsequent emails to Troy to follow up on some of his answers were not responded to. Whilst recruiting online is advantageous for research of this nature, it does also come with problems; it is very easy for online participants to disengage. I only had an email address for Troy and therefore could not follow up on emails to him with phone calls or letters.



There was a definite sense from most forum moderators that they were very busy with several refusing to take part for this reason and others arguing that they should be paid for their time. I also felt in some cases that moderators did not see the value in my research, either because they did not believe UWL drug discussion took place on their forum or because they did know and were suspicious of my motives. Finally, I felt that some online communities were saturated with research and had become annoyed with the various requests to take part in different studies. Some forums had even banned researchers from posting details of their research studies.

Whilst Troy did respond and fill in the questions, which was more than many I contacted, his responses were cursory and I did feel that his treatment of the questions epitomised how some forum moderators feel about research on their forums. I felt that this was more telling and interesting than his actual responses although his answers did also offer insight into moderating an online drugs forum.

Troy has been a moderator of his forum for four years and argues that the purpose of his forum is to *“provide unbiased discussion/assistance to members with various drug related questions”*. Troy stated that most of the discussion on his forum focused on *“harm reduction advice on performance enhancing compounds”* as well as information on dosage and side effect mitigation. Troy was not aware of any discussion on his forum relating to sibutramine and rimonabant, but said that DNP discussion cropped up frequently. However, Troy argued that DNP was generally viewed as an *‘experts only’* drug with its use only to be advised for *“advanced bodybuilders with considerable knowledge and experience”*. There was a specific question on the interview schedule concerning how forum users viewed UWL drug discussion, Troy said the only times members had issue with discussion of this nature was when it focused on DNP. If I had been able to I would have liked to explore this further to see in which instances this discussion was viewed negatively and with which groups of individuals. When asked how forum moderators viewed and handled this discussion he stated that the focus was on burning calories and moderating food consumption to reduce calorie intake for weight loss with drugs only accounting for *“minimal fat loss”*. I felt, as with Josh, that Troy believed UWL drugs should only be used as an addition to a healthy weight loss strategy. In terms of when discussion would be banned or closed, Troy stated that discussion was usually allowed so *“advice could be given*

*to negate harm potential*". However, where advice was dangerous then the forum moderators would intervene and advise. When asked about the promotion of UWL drugs, Troy stated that this was not allowed however if the forum was made aware of fake or dangerous products they would use to forum to advise on this.

Troy felt that sometimes giving advice on harm reduction was *"banging your head upon a wall"* and, whilst moderators did their best to advise on dose or frequency, often much patience was required as *"People generally are going to do something anyway"* no matter what they advised. Despite this, Troy did feel that the best way forward for harm reduction was for the forum to continue in the same way; offering *"unbiased advice, without products for sale"*.

Whilst Troy's interview was useful, I did not feel it added much more than had been gleaned from other interviews. It was frustrating that I could not interview Troy by phone or chat so that I could follow up on his responses. In particular I was not able from Troy's interview to ascertain any differences within his community between male and female UWL drug users or ask about how he and the forum viewed women using this group of drugs. Despite this, Troy's views on DNP specifically were interesting in that he mirrored much of the forums' discussion concerning it being seen as an expert only drug.

#### 6.2.4 Nick: *"If you have a community of people that understand the dangers of such products and methods then it makes upholding this view a lot easier"*

Nick has been a moderator of Forum F for approximately two years. Nick was previously a member of Forum F and was drawn to this forum so he could chat with people with similar interests to himself saying *"fitness is my passion and my career, the [Forum F] community was my place to go when I logged onto the Internet and discuss things I cared about with people that have mutual interests"*. Nick is an experienced moderator having moderated a number of forums previously. However, when offered the moderator position on Forum F, he stepped down from his other moderating roles because he felt that he would not be able to keep a *"communal feeling"* if he was splitting his time across multiple communities. I felt during this interview that Nick had a great passion and love for both fitness and the forum he moderated and genuinely appeared to care about those who used his forum.

Nick stated that the aim of the forum was to help people with health and fitness. There was a particular focus on weight: *"People use the website for a great number of reasons - some to lose weight, some to gain and some to maintain"* and the forum also offered advice on diet and exercise: *"fantastic resource people actively use to assist with their fitness and health goals. Sometimes as a stand-alone resource and sometimes alongside pre-designed plans"*.

When I asked Nick about weight loss drug discussion on his forum, I felt he really did not want to spend too long talking about them. He seemed sceptical of their use, was anti-weight loss drug discussion on his forum and seemed to want to get the conversation back onto fitness and diets stating *"After all, the only way to loose, maintain or gain body composition is to consume over, equal to or above the number of calories each person needs in a day. No matter what the product claims to do, there isn't a product that could ever change the basic laws of science"*. One reason that Nick did not allow UWL drug discussion on his forum was the potential risks of someone being harmed after taking another forum members advice: *"I don't believe that the discussion of unlicensed drugs is something that we would ever be willing to permit...The problem that you have to understand is with the discussion of any pharmaceutical issue, there is always the question of who becomes accountable if somebody takes advice on something such as unlicensed products and what happens if things go wrong"*. I felt at times that Nick was guarded in his answers. He was keen at the start of his interview to state that he was giving his opinion and was not speaking on behalf of the forum he moderated. However, I felt that Nick was concerned about giving a negative image of his forum and whilst I reassured him that neither he or his forum would be named, I still felt as though his responses were somewhat closed with frequent references to the forum guidelines. Furthermore, as Nick's interview took place through Skype chat, he had more time to refine and edit his responses. I also felt that some of Nick's comments conflicted with the discussion I saw on Forum F. For example, Nick argued that UWL drug discussion was not tolerated on his forum: *"I don't believe the members of [Name of forum] themselves are fond of such discussions, the moderation team and staff are certainly cautious of what we allow to be discussed in open forum when it comes to the promotion or use of such drugs"* however I did see many instances of UWL drug discussion on the forum. Whilst members did on some occasions steer others away from UWL drugs, *"the community is geared towards natural weight*

*management methods and discussions of drugs to aid in the process are usually shut down by members far quicker than we (moderators) actually get to them” this was not always the case. Nick also felt that those using UWL drugs also advocated for unhealthy dietary practices and discussion of this nature was banned from the forum saying “there is also the fact that a lot of those drugs are geared towards VLCD's (Very Low Calorie Diets), which is strictly prohibited from the community”*

I asked Nick how he would proceed with forum posts that he felt were not suitable for his forum. He stated that due to the volume of posts on the forum he would only take action with posts that were reported to him by other members. For conversation which involved the advertising or selling of UWL drugs or promoted a particular drug then he would “close the thread, issue a warning to the member that started it and post a reason for closing on the thread itself”. As well as this, Nick stated that threads discussing UWL drugs would also be closed. However, he would allow discussion of, for example herbal remedies or drinking coffee to reduce appetite as long as the discussion was deemed safe.

Nick stated that forums were used so members could seek validation about the efficacy and validity of their weight loss methods saying “I think that quite often people come to communities such as [Name of forum] for reinforcement that the things they have planned to take/try is ok. I find that a lot of threads that people are asking advice on such things on or more tailored to reinforce and convince themselves that the product is safe and will help”. He felt that harm reduction for his forum was in dissuading others against UWL drug use: “With regards to what communities and websites can do for damage reduction - something that I feel [Name of forum] does already is promote natural methods only”. It was difficult to talk to Nick about UWL drug harm reduction as he was so against UWL drug discussion. However, he did say that whilst sharing viewpoints and giving information for why harmful methods of weight management were discouraged on his forum, this was not necessarily the role of the moderator and often fell into the remit of the forum users. Nick argued that shared understanding on the forum encouraged positive and safe weight loss methods saying “if you have a community of people that understand the dangers of such products and methods then it makes upholding this view a lot easier because the power of members outweighs any power that staff or moderators could ever have.”. Nick also felt that his forum was caring and welcoming to all members including those who were new:

*"It isn't the moderators or staff that ultimately make [Name of forum] a safe and healthy place to be - the general community of caring members do an amazing job of helping new and existing members with the continuation and beginning a healthy lifestyles". Nick also felt that generally there needed to be a shift in attitudes towards health and fitness arguing that "Unless somebody is prepared to embrace their own health, there is no product in existence that will help them". He placed blame with the media for the bombardment of products and felt that there needed to be a move away from a 'diet quick fix culture' and instead for people to think more about making sustainable lifestyle changes, "as far as reaching out to people is concerned, really I'm not sure but I believe that the way forward is the discouragement of 'diets' - everybody has a diet, eating 5000kcal of pizza a day would be a 'diet' but not one that would be beneficial to health."*

Whilst Nick was obviously invested in his online community and its members and an advocate for healthy lifestyles, his distrust and scepticism of UWL drugs made this interview very difficult. I was aware that his forum was more geared towards natural progression of fitness and that the stance of the forum was likely to be negative towards UWL drugs. However, I was equally aware that UWL drug discussion did occur on this community. I felt that this forum could do a lot to educate people of the risks of using UWL drugs as well as suggesting other 'safer' methods, however Nick's reluctance to engage in any UWL drug discussion made this impossible. Despite this, I was enthused by his comments concerning how a supportive community can have a positive influence and feel that when an online community has a strong identity that peer education is possible.

### 6.3 UWL drug user interviews

Female forum users were originally recruited via online forums and social media. However, recruitment was poor. Many women initially took an interest in taking part. However, due to the nature of online forums where people may not log into their accounts on a regular basis, they often stopped responding to my messages. Three UWL drug users were recruited, one an ex bodybuilder who had used DNP to cut for a bodybuilding competition. The second was someone who was overweight and using sibutramine to lose weight. The third used DNP for a short period but stopped due to side effects. The interviews are presented as case studies.

#### 6.3.1 Nicola: *"I needed to do something a bit radical to speed the process up"*

I recruited Nicola via a contact who knew that Nicola had previously used UWL drugs, in particular DNP. Initially Nicola was cautious about taking part in the research due to the stigma associated with using DNP. However, after reassurances about protecting her anonymity Nicola agreed to take part. Due to this initial reluctance, I was apprehensive going into the interview and concerned about whether any of my questions would cause any discomfort or mean that Nicola wanted to withdraw from the research. However, during the interview, which was conducted over the telephone, I found Nicola to be extremely candid about her experiences. Due to her previous experience moderating forums I found her insights as both someone who had used UWL drugs and someone who moderated fitness forums extremely valuable.

Nicola had previously been a bodybuilder who had had used a range of enhancement products to assist in achieving her ideal physique. I knew prior to the interview that Nicola had used DNP and so asked her where she had first found out about the drug. Nicola could not exactly remember where she had first heard about it but thought her awareness came from either *"talking to other people who competed in bodybuilding"* or from *"participating with people on online forums"*. At this point Nicola mentioned that she had previously been a forum moderator, which piqued my interest as I had previously recruited forum moderators for this research and had only been able to recruit males. The forum Nicola moderated was a bodybuilding forum which had a high female presence and a mix of male and female moderators. Nicola said that this was quite unusual for bodybuilding forums and certainly mirrored my experiences of struggling to recruit a female moderator. Nicola described how on other bodybuilding forums, there had never been a female moderator

and she felt that this was due to the *“chauvinistic attitude”* of the moderators and owners and an overwhelming sense of the forums being *“heavily biased towards men”*. Nicola cited her own experiences of trying to become a moderator on more male dominant forums, saying that despite her being recommended time and time again by other members she was never chosen due to the owners not wanting a strong female presence and not seeing bodybuilding discussions as particularly female focused.

Again, I felt this mirrored my research experiences of witnessing online discussion where women were told weight loss drugs weren't for them just because they were women and often being dismissed and excluded from the discussion. Nicola also discussed how the online forums were very tight knit, and whilst forum members would be very open about their personal lives they were particular about who they let into the communities. She felt that this was because *“99% of the people who come asking for information from outside the bodybuilding community are looking to do the community harm in some way”*. She said that most outside people had a prejudiced and biased view of bodybuilding and enhancement drugs and that previous experiences of being involved in research and also magazine and newspaper reports had left them very dissatisfied about how they had been represented.

Nicola went on to say that many women were competing in tested bodybuilding competitions where weight loss drug use was banned but they were still using them. However, due to the stigma associated with use, Nicola said that this group would never openly admit that they were using. I asked her whether they would be more likely to disclose on online forums due to their potential anonymity. Nicola disagreed with this and said both on forums and when participating in research *“even if you offer them anonymity they will not admit it to anybody”*. This really challenged my assumptions of online forum use as I felt that due to the perceived anonymity they offered people would be more likely to disclose illicit behaviour. However, Nicola was very adamant that this was not the case in competing. It may be because bodybuilding is still a relatively small community with few members and so fear of being 'found out' may be heightened.

Whilst Nicola did say that forums were *“a good source of sharing information”* she was also very clear that forums were businesses which existed to make money through advertising and increased member numbers. Nicola also felt that whilst there were some well-educated (both academically and in terms of bodybuilding knowledge) people on the

forums who really knew what they were talking about, there was also a lot of anecdotal “broscience” giving an example of *“my mate in the gym said to do this so I do”*. Nicola went on to say that whilst some forums did try and pick moderators who were educated and knew what they were talking about, in many cases moderator positions were allocated *“based on popularity”*. In these instances Nicola felt that it wasn’t always the best people in post as moderators, with people going for those they liked or to keep the peace instead of those who could give people the best advice. Nicola also discussed her initial surprise at the lack of knowledge on online forums. In her opinion many members did not have *“a clue what they were doing”* with the main question for weight loss being *“what drug should I take?”*. Nicola was very sceptical of people asking about weight loss drugs arguing that you should not consider taking any drug unless you are struggling to achieve naturally and that it should be an educated decision.

This then led Nicola to start discussing her own weight loss drug use. Over the years, Nicola had used quite a few weight loss products such as clenbuterol which she found *“helped with weight loss and made doing cardio so much easier”*. Nicola had used green tea capsules, preparatory blends and ECA stacks. However she did not use these products all the time because she found the side effects quite harsh and because of the pressure they put on the circulatory system. Nicola said she knew people who used them *“ongoing, day to day, just a way to lose weight”* and she felt that was a dangerous route to take. I knew Nicola had used DNP and asked her if she had used any other UWL drugs (i.e. sibutramine and rimonabant). However Nicola felt that appetite suppressants were only for those people who lacked willpower and argued that if you struggle with willpower then bodybuilding isn’t the right sport for you. We then moved on to discuss DNP. Here, Nicola felt she made an *“educated decision”*, as she had researched the side effects and knew to watch out for certain *“danger signs”* as well as increasing her carbohydrate consumption and decreasing her cardio activity in order to not put too much stress on the body. Nicola used DNP as she was due to compete in a bodybuilding competition and had not left herself enough time to achieve the body she required. Therefore, she decided to do *“something a bit radical to speed the process up”* and took three 250mg tablets a day for approximately two to three weeks. Nicola purchased her DNP through a bodybuilding contact she knew online. As she purchased from somebody she had known for a long time and Nicola felt that this was the safest option for her. Despite using DNP herself, Nicola



felt that some people were too quick to use weight loss drugs and argued that, in many cases, their use was not required. However, Nicola did stress that if someone was struggling to lose weight naturally and their diet and exercise regime was adequate then drugs like DNP could be useful. She did not feel however that they should be used as a quick fix and argued that for her, whilst she had lost weight using DNP, she did not think it was any more than if she had just carried on with a *“low carb and high cardio regime”*.

We also discussed why Nicola felt women used weight loss drugs. She felt it was because we live in a quick fix society where everyone wants the final product without having to work for it and often people weren't willing to accept that Nicola looked the way she did because of hard work, thinking that that there is *“a big secret that we're not telling anybody”*. Nicola expressed concern that things would only get worse with social media putting a lot of pressure on young people in particular and setting their aspirations too high. Nicola cited Instagram saying that young people see *“photoshopped and filtered photos”* of others and they think that is reality and then try to achieve the unachievable. Nicola expressed concern that if things did not change these pressures would lead to a *“generation of physically and mentally unwell people”* and argued that the pressures from social media were *“a big contributing factor for why these weight loss pills and drugs are more used than ever before”*. Nicola also mentioned the change in roles for men in women, saying that historically *“men were good at stuff and women looked good”* but now women were expected to look good whilst having careers. Whilst Nicola did feel that this was how it should be, she did feel it doubled the pressure for women.

Other than tiredness, Nicola had not experienced any side effects. Nicola had obviously researched DNP and had read a lot of information on forums about dosing and side effects as well as speaking to bodybuilding contacts. I asked Nicola if there was any information she could have been given which would have made her reconsider using DNP. Nicola did not think so, she was aware of the DNP related deaths but felt that was due to people taking a *“stupidly high dose”* and she had been reassured by her supplier that the dosing of the tablets she used were accurate. As Nicola felt she was an informed user and only took DNP for a short period of time she felt that her use was safe. She then went on to say that the only thing which would have dissuaded her from using was if she did not feel she was knowledgeable about the drug because all she knew would be the scare stories or media reported deaths.

We then moved on to talk about how DNP use was viewed and Nicola felt it was really divided between *“people who think don’t be such an effing arsehole, what a stupid thing to do”* and those who felt that the use was okay so long as it was *“an educated decision with knowledge of what you are doing”*. She said where most people were in agreement was when somebody who had tried no other weight loss strategy asked about DNP use. In these cases, Nicola felt *“95% of people would tell them don’t be such an idiot”*. However Nicola also expressed concern about some people on forums who would say *“go on, do whatever you want”* regardless of the person who was asking. Nicola described some situations where people would egg others on to increase their dose and that even on online forums there was a lot of peer pressure. She said that often these people were joking but she had concerns whether others on the forum always realised it was said in jest.

Furthermore, Nicola said that some forums could be very *“cliquey”* and often new forum members got *“shot down in flames”* and *“called stupid”* just for asking a question. Nicola also commented that often those on the forums who were, in her opinion, truly *“experts”* did not have time to discuss what drugs others should or should not take. Often this meant that other, less knowledgeable people shared their advice and this led to *“the intelligent stuff getting filtered out”*. Nicola did feel that forums had a huge influence on members, not for somebody like her with a strong sporting background, but for more impressionable younger forum members who were seeing others with the body they wanted and were seeking information on how to achieve that body. I found this part of the discussion with Nicola matched what I had seen on some online forums, where there was an obvious hierarchy of members.

The final part of our discussion centred on how Nicola felt information about DNP and other enhancement drugs should be provided. Nicola felt that the places that should provide information are the places where people would look for information. Whilst she had had positive experiences at needle exchange programmes, where she had gone for equipment for enhancement drug use, she did not feel the staff there were qualified to offer advice. Whilst Nicola felt that online forums would be a suitable place for delivering harm reduction information, she was concerned about the legality of this, namely *“Could they get prosecuted for telling people how to take it because they’re advising them to do something illegal, so that’s a grey area?”*. Nicola felt that because of this risk, most forums

would not want to offer advice. She acknowledged that some forums did provide protocols for drug use, i.e. how to take the drug, however again she felt there were legal risks to doing this as well. Finally, Nicola stated that whilst you could have really good advice shared on online forums, the risk would always be whether the product was what people thought it was, be that the dose or the drug itself.

Nicola's interview provided some really good insights into a female bodybuilder's use of DNP and other enhancement drugs. It was clear Nicola did have much knowledge of this group of drugs and strongly believed that drugs like DNP should only be used by those people who knew what they were doing. Nicola's experiences as a forum moderator highlighted the male dominance on some forums which I also witnessed, particularly on bodybuilding forums with men often being seen as the true experts. Whilst I understand why those who view themselves as experts want to dissuade those they consider as novices from using DNP, the way this information is delivered can vary. For those who were called stupid, as Nicola described - where do they go from this point, does this dissuade them from using or would they just look for the information somewhere else? Finally, Nicola's views of harm reduction on online forums and the legal implications of this was not something I had previously considered. However, it made me consider the lack of consistency on online forums and perhaps this in part is due to a lack of true expert discussion. At present, online forums have a varied range of information, views, opinions and experiences which are confusing to read and make it difficult to separate good advice from bad advice.

6.3.2 Sarah: *"I was gutted but not because I was taking a banned substance but because I had lost the only thing that has really worked for me".*

Sarah was recruited from a weight loss forum. She responded to a post I had placed online looking for women who had used UWL drugs, telling me that she had previously used sibutramine as well as a raft of other weight loss drugs. Sarah requested that we conduct the interview through Skype, originally this was supposed to be a Skype call but after failed call attempts we switched to the chat function. I started by asking Sarah where she originally got information about UWL drugs from and she said in most cases her information came from social media, online forums or through *"random dirty google searches"*. Sarah followed fitness accounts on Twitter and also read forum posts about how to lose weight and which weight loss drugs to take. However, Sarah did not often

engage in the forums, preferring to lurk, read posts without contributing to discussion *“looking for the next quick fix”*. Sarah said she often searched drug names on Google and then from there came across forums discussing the drugs.

Sarah admitted that her weight loss drug knowledge was sparse. She has a long history of using weight loss products, she says she has an issue *with “carb consumption”* as well as finding traditional weight loss methods to be *“soul destroying”*. She has over the years tried multiple weight loss products and strategies looking for that one which will help her lose weight without the *“pain of maximum effort for minimal output”*. These included over the counter weight loss drugs, prescription drugs like phentermine, herbal products such as raspberry ketones and green tea as well as attending fitness boot camps. She discounted fat burners though, believing them to be *“too heavy duty”* and was concerned about side effects such as nausea and not being able to sleep. Sarah seemed to be quite desperate to lose weight and willing to try almost anything for that quick fix which would help her to achieve her goals. Sarah had purchased herbal products online and received drugs like phentermine from friends. The most recent drug she took however, sibutramine, she used without being aware of what she was taking.

Sarah purchased sibutramine as an ‘herbal product’ from an offline shop. She visited a *“little back street shop”* where she paid £10 to receive acupuncture and a week’s supply of tablets which she was told to take once a day, as well as green tea which she drank three times a day. Sarah used sibutramine for approximately 2 months and found it to be very effective saying that it helped with both weight loss and reducing appetite and that the drug had no downsides whatsoever. Sarah had no idea that she was taking an unlicensed product and only found out that she had been using sibutramine when her supplier was arrested for selling unlicensed products. At this point, Sarah said she felt disheartened and frustrated stating that *“I was gutted but not because I was taking a banned substance but because I had lost the only thing that has really worked for me”*. I found it interesting that Sarah did not seem overly concerned about unwittingly taking a banned substance of which she had no knowledge of the potential harms, but rather that her primary concern was that she could no longer access the only drug she felt had been effective.

The other drugs Sarah had tried, had not worked for her. She had previously been prescribed orlistat by her GP but said it was *“rubbish”* and did not work and these feelings were mirrored in her experiences of herbal weight loss products. With phentermine, Sarah

had not lost much weight but also experienced unpleasant side effects saying that it made her feel *“bloody awful”*, she *“didn’t sleep for three weeks”* and had fainted whilst using the drug. I felt that finding everything else she had tried to be ineffective or resulting in side effects had further exacerbated Sarah’s frustration and disappointment at no longer being able to access sibutramine.

Sarah mentioned that she had considered trying to find a different source for sibutramine but so far had not started using it again. I asked Sarah what her reasons were for this. Sarah said the main concerns were her family finding out and her fear of them judging her and being worried about her health. She was also worried about potential side effects saying that the drug must have been banned for a reason and being scared that its use could kill her. I asked Sarah what types of information she thought would be useful for anyone considering using an UWL drug. For Sarah, she felt that the information needed to be presented in a user friendly way and *“not too heavy to read”*. However, she also acknowledged that awareness of the drugs did not necessarily mean that people would stop taking, saying that *“like all drugs people know the risks and still take them”*.

Since Sarah had found out that she was using an unlicensed substance she had not purchased sibutramine elsewhere. However, she had looked into purchasing it and I felt that she was still weighing up the risks. Sarah was very open about her reasons for wanting to use weight loss products, saying that *“traditional methods are really hard and soul destroying”*. For me, Sarah represented the stereotypical weight loss drug user that I had incorrectly expected to be the typical user. She freely admitted to having a problem with her weight and a problem with overeating and had turned to these drugs for a quick fix weight loss method due to frustrations at not succeeding through diet and exercise. I found it alarming that Sarah had taken a drug without knowing what it was and I found it further concerning that she was seeking that magic pill. Whilst it was reassuring that she hadn’t since purchased sibutramine, I did get a sense from Sarah that she would try most things provided they worked. The fact that she had used sibutramine and found it to be effective with no side effects, I felt meant for Sarah that she still considered it a solution to her weight concerns.

#### 6.3.3 Jane *“Here is my story if anyone was curious on how it went for a small female”*

Jane was recruited from Forum J. Whilst I did not interview Jane she responded to an advert I posted recruiting UWL drug users. Jane had posted on a public forum from which

I had already taken user discussion so I felt it was appropriate for me to use the information she gave me in her post. However, this meant I was not able to ask Jane specific questions or follow up on any posts made. Despite this I still felt that Jane offered an interesting account of a woman using DNP and other supplements.

Jane wanted to post information about her use of DNP because most of the members of the forum were men and she thought it was be useful for women to see how *“it went for a small female”*. Jane was introduced to DNP by trainers at the gym she used who mentioned it was effective in *“getting rid of stubborn fat”* and Jane purchased DNP from dealers recommended to her by her trainers. However, much of the information Jane had about DNP, she had learned from online forums. Jane planned to take DNP for three weeks and started with *“a very low dosage of 125 mg (powder) the first week and then 150mg the second and third”*. On her trainers’ recommendations, Jane also took a number of supplements including Vitamin C, Vitamin E and V8. Jane also tried to purchase N-Acetylcysteine (NAC), a drug which is thought to protect against neurological damage caused by drugs, but she was unsuccessful. Jane wanted to use NAC due to her fears of developing peripheral neuropathy (nerve damage) as this was something she had read could be caused by using DNP. Jane described how she had taken her first dose, expecting to start to feel the effects (mostly becoming overheated) but had no side effects. However, by the third day Jane was experiencing tingling in her hands and due to her fears of developing peripheral neuropathy, Jane stopped using the drug.

Whilst Jane stopped using DNP, she said she would start using it again if she could get NAC. Her experience of using DNP left her feeling really frustrated because she had experienced no other side effects and thought DNP was going to be effective for her.

Whilst Jane’s experience only offered a small insight into using DNP, I felt her story was interesting. Many of the experiences I had seen online of people using DNP often only presented those who had had a positive experience, or those who thought DNP use was a ridiculous notion. Jane was somewhere in between, appearing to be a very cautious user who was not willing to take huge risks in order to achieve the weight loss she wanted. Despite this, Jane had still not ruled out DNP even with the fears of the long term damage she thought could be caused by using DNP. Where I also found Jane’s account interesting was in her wanting to share her experiences due to the lack of female experiences online. Her response to my post came after another comment from a male forum member stating

that they did not see DNP as a female drug, arguing that they did not respect the drug and were only interested in faddy diets and quick fix “lose 10lbs in a week” weight loss drugs. I felt that Jane wanted to share her experiences to show that this wasn’t the case and women were using DNP and using it sensibly.

#### 6.4 Other users

Both UWL drug user and online communities are rapidly developing. Those UWL drug users who were interviewed were guided by the users found within the examined online communities. Whilst there was much crossover, the online communities seemed to be split between those using UWL drugs for bodybuilding who perceived themselves as informed users and those after quick fix weight loss who lacked an awareness of the different types of weight loss products. This research can only offer a snapshot of the online communities where UWL drug discussion is taking place. However, subsequent online searches for UWL drug discussion has found an additional user group not identified in the initial searches. Whilst no eating disorder or proana forums were found in original searches, later checks have found that discussion relating to UWL drug use is now taking place on these communities, seemingly triggered by the death of Eloise Parry, a young women suffering with an eating disorder who died in 2015 after taking DNP. Brief searches of these communities found women who were proactively endorsing and promoting extreme dietary practices. However, whilst there were some women on there who actively stated that they were using UWL drugs, as in many of online communities examined they were often dissuaded from doing so. Despite this, these forums did contain some worrying discussion such as extremely underweight women taking very high doses of DNP, a lack of awareness of the need to take additional supplements whilst cycling DNP, experience of side effects and a view that DNP in particular was the miracle weight loss product. For some on these forums the desire to be thin was the ultimate goal and many were willing to try any method possible in order to achieve this. Whilst the current research did not include any specific eating disorder or proana forums, these feelings of desperation were also seen by members across other online communities and as such are not necessarily limited to only those women suffering with an eating disorder. The awareness that UWL drugs are being used by those suffering with eating disorders is important in targeting service interventions particularly as these users may be the most vulnerable. However, the

overall feelings of desperation and willingness to try anything was something that was evident across many online forums and by many UWL drug users.

### 6.5 Chapter summary

This chapter has provided an overview of forum moderator and UWL drug user perspectives concerning UWL drug in women, in particular identifying motivations for use, attitudes towards UWL drugs and side effects from use. The next chapter (Chapter 7) will discuss overall findings of the studies, as well as strengths and limitations, suggestions for future research and recommendations.



## Chapter 7. Synthesis of findings and discussion

### 7.1 Introduction

The chapter sets out the overall findings and discussion for all stages of this research. The overall aim of this research was to explore the use of UWL drugs in women. Specifically, this research aimed to:

- 1) Identify attitudes and perceptions of UWL drug use
- 2) Identify the self-reported risks of using UWL drugs
- 3) Identify the reasons and motivations behind why UWL drug users begin to use UWL drugs and the associated trigger points.
- 4) To assess the role of online forums in health promotion and sharing of harm reduction information

Whilst these objectives are still used to frame the discussion, the findings considered pertinent to this research area have developed. In particular, this chapter concludes that that 'one size does not fit all', whether that is in identifying user profiles, motivations for use, drug use and the role of online forums in online health promotion such as sharing health information and harm reduction.

This study has been broad and exploratory in its approach collecting a large amount of data from online forums, supplemented with interviews from forum moderators and UWL drug users to provide an overview of UWL drug use in women. Ethical considerations and the use of online methods in hard to reach population will be discussed. Additionally, particular consideration is devoted to women's motivations for UWL drug use and those who use UWL drugs, the role of online communities in sharing health advice and whether online forums are suitable environments for the sharing of health information and harm reduction. The original contribution of the thesis and strength of the work is explored followed by the limitations and implications for policy, practice and future research within this area.

This chapter will bring together each study conducted. A separate discussion was not provided for each study chapter due to the sequential design of this research. Each stage was guided by the previous and combined provides a full overview of the topic, therefore one discussion presented at the end of all data analysis was considered preferential.

A formal triangulation methodology was not adopted, due to each of the stages of research focusing on different elements of the research aims and objectives. However, the key findings from each stage are outlined in Figure 7 and discussed below.

Figure 7. Overarching findings from each study



## 7.2 Ethics in online research

The online nature of this research created much consideration around both the value and use of this method as well as the potential ethical issues. This section provides an overview of many of the ethical issues which occurred during this research and how they were handled. Ethical considerations in online research are complicated and nuanced. Issues concerning the use of verbatim quotes from online communities, seeking consent, protecting from harm and distinctions between private and public spaces in particular have generated much debate in recent years (e.g. Barratt 2011, James and Busher 2015, Martin and Christin 2016, Barratt and Lenton 2010). As a researcher who had not previously undertaken online research, advice was sought from a number of colleagues at the onset of this research about whether research of this nature required ethical approval. Responses to this question differed with some colleagues suggesting that ethical approval would be required and others stating that online forum posts were publically accessible and therefore ethical approval was not required. These responses mirror how ethical considerations in online research within published works are treated, with some researchers outlining in great depth their ethical dilemmas and processes and others giving ethics only a cursory mention. However, ethics in online research are complicated and whilst they still present the same challenges as in traditional research, they also generate fresh ethical challenges (Barratt and Aldridge 2016). For this research, guidance was taken from the British Psychological Society (2013) ethics guidelines on conducting internet-mediated research, recommendations from the Association of Internet Researchers (AoIR) ethics working committee (Markham and Buchanan 2012) as well as processes outlined in Kozinets (2002) work and therefore ethical approval was sought. Despite this, carrying out research of this nature still produced ethical dilemmas and at points caused periods of doubt about conducting this type of work. For example, should only public or open forums be included? Should the online forums be made aware that they are being researched? Should consent be gained? Should direct quotes be used? These concerns and issues were exacerbated due to the lack of clarity in ethical guidelines (Trevisan and Reilly 2014) and due to this, the inconsistency in how ethics committees view this type of research and how researchers interpret and utilise the guidelines. Furthermore, it is often unclear whether ethics committees are making use of online research guidelines (Sharkey et al. 2011). Guidelines for the conduct of online research have also been criticised for being outdated as new medias have evolved (Trevisan and Reilly 2014). This chapter will now go on to

discuss some of the main issues associated with online research and how these issues were handled within this research, an analysis of online forums (as described in 3.5). Whilst this chapter does not provide the definite solution for how each of these issues should be resolved, the decisions that were made represented what was felt to be the best fit for this particular research.

#### 7.2.1 Covert netnography

Kozinets (2002) p.65 recommends four ethical procedures that should be undertaken in online research. These are that the:

- 1) Researcher should fully disclose their presence, affiliations and intentions to online community members
- 2) Researcher should ensure confidentiality and anonymity
- 3) Researcher should seek and incorporate feedback from online community members
- 4) Consider the private and public space issue

Consideration has been given to Kozinets' recommendations of confidentiality, anonymity and private and public space and has been discussed in subsequent sections. This research differs from Kozinets (2002) recommendations on disclosure. Kozinets recommends that researchers should announce themselves on the online communities they are researching, provide credentials and seek permission for using quotations. However, this issue may not always be necessary, particularly when public forums are being used. Langer et al. (2005) argue that the ethical guidelines set out by Kozinets are sensible when researching restricted or private forums but are far too rigorous for all online research. Langer et al. (2005) discuss how in their research of cosmetic surgery discussion on Internet message boards, they did not announce their presence. This was because they only used public message boards that did not require formal registration and because most online users had used pseudonyms for their posts. It was also felt that declaring their presence would reduce one of netnography's major advantages, specifically its unobtrusiveness. Langer et al. (2005) also argue that declaring researcher presence on an online forum might endanger their research and cause forum users to engage in what they termed 'the spiral of silence'. Essentially, researcher presence might stop forum users from posting, meaning that only those online users who feel comfortable discussing sensitive topics in the presence of researchers would be included. In this research, posts were being analysed

retrospectively so there was no concern about forum users not posting. However, subsequent stages of the study involved interviews with forum moderators and UWL drug users. It was felt that asking permission to use the forum could endanger the involvement of both these groups in the later stages. Furthermore, all forums used within this research were publically available forums which did not require an account to access threads and posts.

#### 7.2.2 Member feedback and member checks

Kozinets (2002) discusses two types of engagement with members or online users/moderators that are linked. The first of these is member feedback and is concerned with seeking and incorporating feedback from members of an online community. The second, member checks is concerned with presenting research findings to participants for their comments. In traditional research, member checks or feedback is the process of presenting research findings to research participants, in order to gain feedback on researchers interpretation of the data (Lincoln and Guba 1985). Kozinets (2002) argues that member feedback is useful as it allows researchers to gain additional insights into meaning. This can be particularly useful in netnography where it is possible for forum posts to be misinterpreted. Thomas (2017) argues that many researchers advocate the use of member checks such as sending participants interview transcripts or a copy of the research report. However, they also state that whilst there is an assumption that carrying out member checks will enhance the validity of the research, there is no real evidence or justification for this. Furthermore Thomas (2017) argued that whilst member checks may be useful for studies involving evaluation, participatory or collaborative research, they were unlikely to be relevant for all research.

Additionally, often member checks results in poor response from participants, additional intrusion for participants and ultimately little practical changes to the research. In online research specifically, Langer et al. (2005) argue that a pragmatic approach should be used and that member checks were not required due to the forums they were using being public. However, it appears there are two different issues, 1) the decision whether to inform members about the research and 2) the decision whether to seek comments and feedback to and from members. Whilst it can be argued for public forums, it is not necessary to inform participants, member checks are concerned with attempting to improve the quality of the data. Whilst (Thomas 2017) argue that member checks might

not always add anything to research, for investigations which are aiming to capture participants experiences or perspectives, member checks may be useful. In the current research no formal member checks or member feedback were made. However, several participants in both the UWL drug user and moderator interviews were recruited via online forums. Throughout the interviews, participants in both stages were asked to discuss the types of discussion that they had either contributed to or were aware of on online forums. Both interview studies were informed by information gleaned from the online forum analysis and acted as a way of validating and expanding on information collected during this stage.

### 7.2.3 Private and public spaces

Before discussion around private and public spaces can be made, consideration first needs to be given to whether information on online forums should be used within research at all. Netnography is different from traditional research methods, i.e. focus groups, interviews or questionnaires because information is collected and used that has not been given specifically to the researcher (Kozinets 2002). Kozinets (2002) p.65 describes online researchers as “professional lurkers”, essentially active observers who learn about an online community through watching and reading (Kozinets 2010). By its nature, netnography is unobtrusive which can be both attractive to researchers but also cause issues. As participants are likely to not have consented for their words to be used then there is potential for harm to be caused by the publishing of their words. On the other hand, it could be considered that if someone has posted something online then they have put it there for others to see. Therefore does the action of posting something online make it public information and open to all to access and can we as researchers then use their words? This is a ‘grey area’ and means consideration should be given to what the intention of the forum post was when it was originally made. Did the forum user realise it would be publically available to everyone and did they consider that their comments may be used in research one day? Eysenbach (2001) argues that those posting on internet forums are unlikely to expect that they may be involved in research and when forum posters were aware that researcher involvement had, or was going to occur, that this was often met with negative responses.

Eysenbach (2001) also states that it is important to make a distinction between whether online forums can be considered private (closed) or public (open) spaces. However,

defining and deciding whether forums are public or private is problematic. A forum which does not require membership via password protected accounts or an invitation to join could be classed as public, whilst forums which do, classified as private. In the case of online forum research, this issue should be considered alongside whether the publication of information could negatively affect the group. So, in terms of verbatim versus paraphrased quotes, is the answer to only use public forums, i.e. those that are publically accessible and do not require you to become a member or pay a fee to join? The AoIR guidelines discuss how there have been cases where users of private communities had reported feeling harmed following researchers using their words in research (Markham and Buchanan 2012). In this research, only publically available forums were used but again, there are issues with doing this. Barratt (2011) argues that even when a forum does receive a public audience it cannot always be presumed that the forum member perceives there to be a public audience. This has implications for consent, amid a rising movement to protect online communities and their views. Furthermore, the British Psychological Society guidelines state that the distinction between what is a private forum and what is a public forum can be blurred when forums which were once private and password protected later become publically available (British Psychological Society 2013). Others argue that whilst there are '*shades of grey*' in deciphering whether online forums are private or public, researchers should take the time to examine online spaces to establish whether its users deem it to be a public space or not. In these cases it can be argued that online communities with a large group membership and which are easy to join should be classified as public space (Martin and Christin 2016). Those forums with restricted members and which have a vetting system in order to be a member should be classed as private spaces (Martin and Christin 2016).

In this research, only publically accessible forums were accessed. Whilst there are still ethical concerns about using any type of online forum, it was felt that the benefits in terms of increased knowledge about the area of UWL drug use outweighed these concerns. Furthermore, steps were taken to ensure that participants would be protected from any potential harm (Table 12). As recommended by Martin and Christin (2016), forums were included and classified as public if they had a large membership and membership was easy to gain, i.e. just providing a user name and email address in most cases. Furthermore, during the online forum analysis, the researcher did not attempt to gain membership to



the forums to ensure that only forums which did not require an account in order to view posts were selected. Forums were not named nor were forum user names used. Finally, any forum poster who had used what appeared to be their own name or photograph of themselves as part of their user profile were excluded.

*Table 12. Public and private forums*

Issue	Approach	Problems with approach	Solutions
<b>Whether to include public or private forums</b>	Public forums Large member numbers Easy to become a member	Blurring of public and private spaces Even when public, users may not view the forum in this way Publication of information could harm forum	Forums not named Forum users and moderators not named Members who had used real name or photograph of themselves were excluded

#### 7.2.4 Consent

The decision concerning whether or not to gain consent from forum users or moderators is linked to whether public or private spaces are used. Within this research, the decision was made to only include publically available forums, therefore consent was not gained from forum users or moderators. Guidelines on seeking consent from both moderators and forum users are fairly sparse. However, the British Psychological Society (2013) suggest that consent may not be necessary providing the online forum is public and care is given to protecting participants from harm. The potential to cause harm is mostly concerned with whether participants could be identified through research publications.

#### **Reflexive pit stop – Online research**

I did not gain consent from forum moderators or forum users due to only public forums being used. Additionally, subsequent stages of the study involved interviews with both forum moderators and forum users recruited from the forums. However, recruitment for both these stages was difficult. Asking moderators to be involved in the research led to responses ranging from disinterested to negative, in some cases resulting in me being banned from the forum. Furthermore, asking forum moderators if details of the UWL drug user study could be posted on their forum also often led to negative responses and again in some cases led to banning. The reluctance of forum moderators to participate in later stages of the PhD caused me to have some tension in how those online forums continued to be viewed. If forum moderators did not want to be involved in interviews, would they have been willing to allow posts from their forum to be included in research? Whilst it is not possible to know this, it did lead to feelings of unease about the use of online forums in research despite following all appropriate ethical guidelines. Care had been taken to select those forums which met a definition of a public group, however those involved in the group were reluctant and in some cases suspicious of being involved in the research. During the PhD, I with, three other PhD students who were also carrying out online research, established an online methods group (OMG). It was clear that the feelings I had encountered during this research had also been encountered by other members of the group. Despite all of us having considered the ethical issues associated with online research in great depth there were still feelings of unease about taking peoples words without their knowledge or consent. We was also felt that ethical guidelines on this issue were sparse although it was also acknowledged that a 'one size fits all approach' for this would not be suitable. The group published a paper (Germain et al. 2017) that discussed some of the ethical issues associated with online research using experiences and reflections from our own research. Collaborating on this paper and having the opportunity to share doubts and concerns about the use of online methods with colleagues was an extremely useful process. Whilst my concerns were not completely allayed, there was a realisation that all possible steps had been taken to protect forum users and forums. Furthermore, without using online methods in this research it would not have been possible to gain such insight into this group. One of the main discussion points that our paper covered was around online methods not being used as an easy option or because they are classed as interesting and innovative. Instead online methods should be used when they are the most suitable method for the research being undertaken as was the case here. We have also recently collaborated on a second paper exploring barriers we encountered during online recruitment. This paper is currently under review.

The AoIR guidelines state that consideration should be given to whether consent will be gained and again differentiate between whether public or private forums will be used (Markham and Buchanan 2012, Convery and Cox 2012). However, as discussed what constitutes a public or private forum can become blurred and is often down to researcher opinion and interpretation. What is also evident are differences in how researchers conduct this type of research. Convery and Cox (2012) discuss how some researchers view the internet as public and therefore “fair game” in research whilst others argue how researchers should protect participants’ expectations of privacy.

Consent was not received from forum users due to posts being accessed retrospectively and therefore it would have been extremely demanding to contact all forum members who had contributed to each thread. Additionally, if consent had been gained, only those posts from members who had consented could be used, which would lead to disjointed threads with lost richness and meaning. Consent was also not received from forum moderators in accessing online forum posts. This was not a deliberate attempt to deceive as interviews with moderators of the forum were planned for a subsequent stage. In some research where posts are being analysed in real time, consent can be gained from forum users to use their forum posts as they are likely to be current and active forum users. In addition, the researcher can announce their presence to the forum if they wish to and keep doing so as new forum members join or post. However, this will be extremely difficult to do in retrospective studies such as this where posts are being analysed from as far back as five years ago as, forum users may not still regularly access the forum or may have left the forum entirely.

As only publically available forums were used, consent was not gained from either forum users or forum moderators. However, the reluctance of forum moderators and forum users to take part in subsequent stages of the study highlighted that just because a forum is public does still not necessarily mean that those using the forum expect their words to be used in research. Whilst forum moderators did not explicitly state that they were unhappy that a researcher had been lurking on their forum, they themselves did not appear to want to take part in the research in most cases. This did leave the researcher with somewhat of a dilemma in continuing to use forum posts, knowing that those who moderated the forums where those posts came from may not wish to be involved in research. However, it was felt that ethical guidelines had been adhered to in this case with

steps being taken to ensure that forums, forum users and moderators were not identifiable (Table 13). For studies where threads are being analysed in real time, there should be an expectation that consent is gained from forum moderators. In studies such as this, where threads are being analysed retrospectively contact with forum moderators would be made at an earlier point in the study to discuss how the research should proceed with regards to whether threads could be used in research and whether consent was required.

*Table 13. Consent*

Issue	Approach	Problems with approach	Solutions
<b>Whether to gain consent from forum moderators and forum users</b>	No consent Only public forums Large membership numbers	Ownership of words Just because forums are public does not mean users would consent to their words being used	Not done in this study but would recommend early contact with moderator

#### 7.2.5 Verbatim quotations

In qualitative research, participants' words are quoted to provide meaning and richness to the data. Quotes are usually verbatim, to reduce the risk of misinterpretation by paraphrasing (Guest, MacQueen, & Namey, 2012). In online research however, using verbatim quote can cause problems. Due to public forums not requiring a password to access them, it is possible to locate the original post by putting the quote into a search engine. Therefore, it is necessary to decide the probability of harm to the poster if their quote was traced to the original post. This depends on the level of personal information and the content of the post. If the forum user has used their own name or a photograph then the British Psychological Society (2013) guidelines suggest that in order to maximise the level of anonymity given to forum posters, paraphrased quotes could be used. However, they also acknowledge that this should be considered alongside the potential for causing harm to participants. As an emerging research methodology, the use of verbatim quotes taken from online communities appears to be a somewhat '*grey area*' with conflicting interpretation of guidelines resulting in differences in how this type of research is conducted. Much research has involved thematic analysis of online communities and used verbatim quotes within their research (Hekler 2014, Kjellgren 2011, A. Kjellgren, Jonsson, K 2013, A. Kjellgren, Henningson, H., Soussan, C 2013). A specific example comes from Arden (2014) whose research examined comments made by women around gestational weight management on online parenting forums. Verbatim quotes

were used but identifiers such as forum user names, the name of specific forums and any other identifying information were removed; this research was granted full ethical approval and the authors discussed how the steps taken within their research were in line with the British Psychological Society guidelines. The use of online communities within research have also been identified as an extremely useful way of gaining information about sensitive topics especially when access to participants may be problematic. In work conducted by Elliott et al. (2005) online message boards where discussion was focused on the use of cosmetic surgery were used. Within this piece of research, verbatim quotes were used without consent as the forums were considered a public space. When considering the option of taking consent to use quotes or making forum users aware of the research, the researchers also felt that by declaring a researcher presence on the forum may hinder the research (particularly when prospectively monitoring a forum) as this may deter forum users from posting.

Whilst there is much research that has been carried out using verbatim quotes, there also exists research which has either gained consent from forum posters or paraphrased forum quotes in order to protect participants' anonymity. Eysenbach (2001) argues that those posting on internet forums are unlikely to expect that they may be involved in research and researcher involvement within forums was often met with negative responses. Eysenbach (2001) also argues that the use of verbatim quotes may breach participant's confidentiality as Google searches could find the original message. However, Roberts (2015) also discusses this issue and describes various ways that this issue could be addressed. The first is as suggested by the ethics committee and is the suggestion to paraphrase quotes, however other solutions were also given. Researchers could exclude the name of the online community and the web address or quotes could be searched via search engines by the researcher and slight modifications made to the quotes, without changing meaning, to ensure they cannot be found.

When submitting the ethics application for the online forum analysis study, the University Ethics Committee requested that quotes from the forums were paraphrased. However, there was a reluctance to do this due to the risk of misinterpreting a quote, changing the emphasis of the quote or not reflecting the poster's intentions. Throughout analysis of the online forums, often it was difficult to interpret forum user's meanings. For examples, one post read *"take DNP; that'll burn body fat like crazy"*. Whilst on first reading it sounds like

the forum posters are advocating the use of DNP, there are other potential explanations, e.g. the forum posters might have been warning that DNP can raise the body temperature to 'crazy' or dangerous levels; the forum poster may have been '*trolling*' i.e. deliberately trying to provoke others by making controversial statements, or they have intended the statement to be humorous or sarcastic. Without the other verbal and nonverbal cues that you would get in face-to-face methods such as tone of voice, body language, eye contact and hand gestures, it is extremely difficult to discern the intended meaning of the statement. All qualitative research relies on a level of researcher interpretation, however this interpretation is normally presented alongside the original quote, which allows readers the opportunity to agree or disagree with the interpretation. By paraphrasing, only the researcher's interpretation of the quotes are presented.

Within this research, gaining access to and recruiting participants who are using or considering using UWL drugs is problematic as for example, there are no defined health care services which they may be accessing. It was felt that online forum analysis was the optimal method in gaining information about UWL drug users. However as there was a reliance on pre-existing forum discussions there was not an opportunity to ask forum users to clarify on points made as would be possible in interview or questionnaire settings. Due to this, the risk of misinterpretation whilst paraphrasing may be high. The addition of a paraphrasing phase alongside usual qualitative thematic analysis may also mean that too much emphasis is being given to the researchers own interpretation of the quotes and risks potentially losing the personal nature of the quote. The ethical implications of using verbatim quotes were considered and it was not felt that using UWL drug user quotes would cause harm, as whilst selling UWL drugs is illegal it is not illegal to use them. In addition, through taking certain precautionary measures such as removal of user names, forum details, web address and identifiers and the exclusion of forum users who have used real names, this minimizes any potential risk to forum users. Checks were also made, whereby quotes that were to be reported were Google searched and slight modification made to 'non important' words (i.e. words that do not influence the meaning of the quote) to ensure the quotes are not found within Google searches (Table 14). This argument was presented to the ethics committee and they approved the use of verbatim quotes with this research.

Table 14. Quotations

Issue	Approach	Problems with approach	Solutions
Whether to use verbatim or paraphrased quotes	Verbatim quotes used	Identification of forum/forum users Potential to cause harm	Forums not named Forum users and moderators not named Members who had used real name or photograph of themselves were excluded Small changes to non-important words if 'Google searching' found the original quote

Online research methods can provide a wealth of information and are particularly useful for researching vulnerable, hidden or hard to reach groups. However, consideration is required around the potential impact of including the words of these communities within research. This research has contributed to the discussion around the ethical implications of online research. Furthermore, it argues that whilst ethics should not prevent research from taking place, researchers must exercise caution in simply seeing these online communities as freely available data.

### 7.3 Body image pressure and the use of UWL drugs

The literature discussed in chapter 2 examined the pressures on women to conform to an ideal body shape, whether that was linked to societal and cultural pressures and expectations (Orbach 2009, Orbach 1986), the role of the media (Halliwell 2013, Harper and Tiggemann 2008, Hawkins et al. 2004, Myers and Biocca 1992) or social media (McLean et al. 2015, Meier 2013, Royal Society for Public Health 2017, Tiggemann and Slater 2013, Tiggemann and Zaccardo 2015). From a feminist perspective, thin ideals and pressures on women to conform to those ideals is pervasive (Orbach 1986, Orbach 2009) with body monitoring and body dissatisfaction being a major outcome of these pressures (Murnen and Seabrook 2012). Social comparison theory (Tiggemann and Zaccardo 2015, Festinger 1954) suggests that people evaluate themselves by actively comparing themselves to others through upward comparisons (comparing themselves to someone viewed as more attractive, better or more elite) or downward comparisons (comparing themselves to someone they view as worse off than themselves) which can help a person to feel better about themselves. Social comparison theory has been much used in discussing the negative impacts of the media and more recently social media, with women comparing

themselves to beauty ideals and often failing to meet those standards (Festinger 1954). This can encourage negative thoughts about one's own appearance and is linked with low self-esteem and body dissatisfaction. Peer comparisons have also shown to be important appearance comparison targets for women (Holland and Tiggemann 2016) and often more important than comparisons with models or celebrities. This high level of focus on the body is also thought to contribute to appearance modification which includes the use of drugs to alter, maintain and improve the body or appearance (O'Dea and Cinelli 2006).

Within this research, there was a preoccupation with the body. In many cases, the discussion was not around women becoming healthier but instead women describing how they wanted to improve, hone and perfect their bodies. A recurring theme was the preoccupation women had with a '*body in a bottle*' with UWL drug users often having a '*quick fix*' mentality, wanting to achieve their ideal body and physique without having to put in any work. This was particularly evident in UWL drug user Sarah's interview where she described wanting maximum outcomes (perfect body) with minimal input (no diet or exercise). Peer comparisons were also evident. This was particularly seen in UWL drug user, Nicola's interview where she discussed how within the bodybuilding community other women looked up to her, admired her and wanted to know how she achieved the body she did, ultimately comparing themselves to Nicola. In turn, Nicola described, how when she first got into bodybuilding, it was simply because she wanted to look a certain way, because she cared about the way she looked and because she had been influenced by the appearance of others. For Nicola, she felt that with the rise of social media and photo-shopped pictures that this issue was only going to get worse for women, viewing these unattainable bodies and becoming more and more willing to take more and more risks to achieve their ideal body. This was something Nicola discussed within the context of bodybuilding but also more generally as a desire to be thin or lean. Looking more broadly across the forums, forum members used such phrases as there was "*something wrong with them*" or "*they were a joke for overeating*" for being over their ideal weight. Similarly, in Sarah's interview there was a sense that she felt she was not good enough at the weight she was currently at, referring to herself as fat, and being willing to try most things in order to lose weight. This internalised belief by women on the forums and those interviewed that they would be better or happier people if they simply lost weight was evident. Furthermore, women compared themselves to others. There were frequent mentions of



how good a friend looked, or how good somebody else on the forum looked. Where those women had used UWL drugs this seemed to incentivise other women to use them also.

This study has been broad in its approach, looking across forums rather than detailing forum member's journeys and stories. Examining online forum posts can only offer a snapshot of what an online user was feeling and willing to share at that point in time. Social comparison theory can help to explain why women use UWL drugs since women often compared their bodies negatively to others before initiating use or positively as a reason to continue using. However, this is part of a bigger societal issue with increasingly pressures on women to conform to an idealised body contributing to a desire to enhance, hone and improve through risky strategies. Whilst, these pressures are also evident in men they are heightened in women due to a focus in today's society of how women look rather than what they achieve.

#### 7.4 UWL drug user types

To date, there have been no in-depth studies examining which groups of individuals, outside of bodybuilding communities are more likely to use UWL drugs. For DNP, the focus up to now has been within bodybuilding communities. This is likely because the online markets most often target DNP at bodybuilders and several deaths following DNP use have been identified in bodybuilders (Grundlingh et al. 2011). Other research exploring DNP use has done so without exploring the sex of the user or other characteristics of users (McVeigh et al. 2016). There are also suggestions that DNP is, although to a lesser extent, used by extreme dieters and those suffering with eating disorders (Hoxha and Petróczi 2015). The media has also reported deaths following DNP use seen across bodybuilding communities as well as in those suffering from eating disorders and extreme dieters (BBC News 2015, Sawyer and Mendick 2013, Brooke 2013, BBC 2012, Matharu 2014). For sibutramine and rimonabant the focus of literature and research thus far has been pre withdrawal from the market as well as the clinical trials testing its efficacy (Arterburn et al. 2004, Christensen et al. 2007, James et al. 2010, Lean 1997, Sam et al. 2011, Scheen 2011). For all three of these drugs however, there is little understanding of the differing users of these three drugs, i.e. whether they are all used by the same groups or by distinct and separate groups and what decision-making processes are being undertaken in their use.

Analysis of the GDS, identified that in a sample of psychoactive drug users, approximately 5% of women (compared to 3% of men) had ever used a weight loss drug<sup>32</sup>. For both men and women, DNP and rimonabant use was low. For women sibutramine was used far more than other UWL drugs and women also used sibutramine more than men. In terms of age the majority of female weight loss drug users were aged between 18 and 34 years. Interestingly for DNP and rimonabant, although taking into account that numbers were small, users came from a range of BMIs, from extremely underweight to obese as well as users undertaking different levels of exercise, from no exercise to exercising three to four times a week. This suggests that those using these UWL drugs were not necessarily restricted to bodybuilders. Sibutramine use was seen more frequently in those who were either overweight or obese. Similarly, only a relatively small proportion of weight loss drug users said they took part in exercise at least three to four times a week. Also of note is that those using weight loss drugs were more likely than the rest of the GDS sample, to have tried other drugs that have weight loss properties including caffeine pills and amphetamines. Whilst we cannot assume from the GDS that women were using caffeine pills and amphetamines for weight loss<sup>33</sup> the findings here do suggest women are using a range of substances with weight loss properties. Furthermore, this stage set the scene, providing a link between the literature and the qualitative stages by setting baseline characteristics and identifying the use of UWL drugs in women.

When beginning to plan the qualitative stages of this research many avenues of recruitment were considered such as gyms, beauty salons, modelling agencies, clubbers or focusing upon girls and young women. However, as previously discussed, there is little evidence concerning who the users of UWL drugs are and focusing on one specific population would have been making assumptions about who were the most likely users. Data from the GDS suggested that women are using different UWL drugs and for different reasons, suggested by variances in both BMI and exercise frequency of these groups. Whilst online forums may not attract all potential UWL drug users, they are far-reaching and varied, attracting a range of different online users. Within the online forum analysis, forums were selected based on whether they had a large female presence or if not, by only analysing posts within female specific sub-forums. The systematic manner in which online

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<sup>32</sup> This includes DNP, sibutramine and rimonabant but also ephedrine, clenbuterol and T3/T4

<sup>33</sup> These drugs can also be used to promote wakefulness

forums were selected revealed varied online communities. These included weight loss, fitness, bodybuilding, parenting and drugs forums. The sheer variety of forum types demonstrates the heterogeneity of online communities where UWL drug discussion is taking place. As would be expected the different forum types elicited different female UWL drug users, all very different and who are best thought of as a spectrum of users.

At one end of this spectrum are those women most often seen within the bodybuilding forums or drug-focused forums, typically those users already identified within previous DNP related literature (McVeigh et al. 2016). They are often bodybuilders, and although women they are using predominately male focused forums. They may also be using a range of other drugs and supplements such as steroids or other muscle building drugs in order to achieve the physique they require for competition. Whilst this research has focused on female discussion of UWL drug use, on these forums discussion from women was far less prevalent and often confined to female specific sub-forums within the overall forum. Bodybuilders in these forums are using DNP most often for cutting body fat, often in preparation for competition and users on these communities range from novice to experienced, both in terms of their bodybuilding experience but also their UWL weight loss drug experience. Those perceived to be experienced and knowledgeable are viewed within the forums as the ultimate '*top dogs*', often seen as role models with others looking to them for advice. However, whilst this group may have experience of muscle building drugs, which is often where they initially gained their '*top dog*' status, this did not mean that they had equivalent levels of knowledge regarding UWL drugs. For this group there was no way of checking their credentials even if they say they are informed and experienced bodybuilders. Additionally, the purpose of use, aims of use and health, fitness levels and diet for bodybuilders will be different to that of other UWL drug users so their knowledge and advice may not always be appropriate.

Towards the other end of the spectrum are those female UWL drug users who are overweight and may be using UWL drugs for planned reasons such as to make a target weight or for a specific event. These women are more likely, although not always, found on forums targeted more generally at weight loss as well as parenting and women only communities. Also seen here are those who are using UWL drug seemingly on impulse, justifying their use by using terms such as '*kick-starting*' their weight loss or because they have '*plateaued*' in their weight loss. Finally, at the end of the spectrum are those who are

overweight or who are slimmer but using UWL drugs to tackle stubborn areas or to help with weight loss following pregnancy. These women appear to be more often using sibutramine and rimonabant and the discussion around these drugs tends to take place on the more general weight loss forums.

Across this spectrum, there are a multitude of differing female UWL drug users who are using for different reasons, taking different UWL drugs and with a differing levels of awareness of the drugs and willingness to take risk. The case studies of UWL drug users within Chapter 6 highlights two examples of female UWL drug use with Sarah being the non-expert, overweight taking a UWL drug with very little understanding of what she is taking compared with Nicola, who views herself as an expert and who has made, what she considers an informed decision about the drug and its risks. It would be a mistake to think though that these women present the two extremes or typical types of female UWL drug users. Due to this research, being so broad in nature, and looking across many different forums and female UWL drug users, it has identified that assigning UWL drug users into categories is not so simple. Within public health, there is a tendency to seek typologies of those engaging in harmful behaviours and practices and attempt to classify users and behaviour within a hierarchy of risk. For example, recent work conducted by Christiansen et al. (2017) sought to create a typology of male use of steroids, suggesting four ideal types; the expert type, wellbeing, YOLO<sup>34</sup> and the athlete. These groups were based on steroid users' approaches to risk as well as how effective the drug was for them. Further work exploring these typologies also looked at age and motivations for using steroids (Zahnow et al. 2018). In this research, an initial attempt to devise a typology for UWL drug users, similar to that for steroid users, came up short. Equivalents of some of the groups defined by Christiansen et al. (2017) were seen in this research. The best example was the athlete type, who in Christiansen et al. (2017)'s work was epitomised by a willingness to take a high level of risk to see a high level of pay off as well as being motivated by muscle and strength gains (Zahnow et al. 2018). In this research, the female bodybuilders taking DNP and reporting positive results driven by fat loss and cutting did feature. However, the characteristics of the overall population of UWL drug users were more complex and nuanced than would be possible to demonstrate by creating typologies of users. Even when comparing 'the athlete typology', to its closed counterpart in this research, the UWL

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<sup>34</sup> You only live once

drug bodybuilding group, there were differences in terms of motivations, perceptions towards the drugs, level of risk taking, and how users viewed the effectiveness of these drugs. These users are complex, and it is not as clear-cut to say that bodybuilders are those taking the high risks with the higher levels of knowledge. There were many conflicting pieces of advice given on bodybuilding forums, including incorrect advice particularly around issues of legality or unsubstantiated advice based on anecdotal experiences. Furthermore, whilst DNP was more frequently discussed on bodybuilding forums there were many who felt the risks were too high and would not consider taking it. Even for those women who were using UWL drugs as a quick fix, perhaps for an upcoming event or because they were overweight, it is not as clear cut as saying these women are more likely to take low risks with lower levels of knowledge. These women also varied with some wanting those quick results through risky strategies such as DNP, others taking the less risky drugs such as sibutramine and rimonabant and others being fearful of the risks of using any non-prescribed medicine. For those women who may think they are taking a '*less risky*' approach, this again is not that simple as they are still using drugs not prescribed to them with a lack of knowledge concerning potential drug interactions, risk of purchased drugs being adulterated or potential risks posed by underlying health conditions.

Female UWL drug users fall on a spectrum in respect to levels of knowledge about the drugs, level of risk taking, reasons for using UWL drugs, perceptions and perceived effectiveness of the drugs. Therefore, the notion of a typical UWL drug user does not exist, nor in fact does a typical DNP, sibutramine or rimonabant user exist. Whilst this makes things difficult to navigate for public health, which deals with populations and groups, it is an important and much needed consideration when targeting public health interventions or strategies at these groups, or perhaps more accurately individuals.

### 7.5 Profiling the forums – Attitudes and perception of UWL drug use

Online research is a useful tool for researching health related topics (Mitchell et al. 2016, Norman et al. 2014, Van Hout 2014a) as well as researching sensitive or illicit behaviour (Langer et al. 2005). However, prior to conducting research of this nature, consideration is required concerning which online communities are best suited for that particular research. For this research, a systematic and wide-ranging approach was taken in identifying online communities, taking into account both social media and varied online forums to explore where UWL drug discussion was taking place. If assumptions had been made prior to

conducting the research concerning which women were more likely to discuss UWL drugs then the focus in this research may have been only on 'bodybuilding' or 'dieting' forums. However, by looking for UWL drug discussion more widely, allowed this research to make visible a wider range of female user experiences. This again comes back to the notion of typologies and not making an assumption that in research we can decide in advance the types of people who are most likely to engage in a particular behaviour. Furthermore, by including numerous online forums within this work highlighted just how different they are. Online forums and communities are complex and even within those forums that have similar topics of discussion, the types of discussion and attitudes of forum members vary considerably. What is overwhelmingly clear is that as with UWL drug users there is no singular or even several typical online forums. Instead, online forums where UWL drug discussion takes place are mixed and this is in terms of the populations who use them, the moderators who run them, the atmosphere of the forum and the types of advice shared around UWL drug use. Whilst within the forums, there are overall characteristics which have been used to define the forums, such as 'the in-group bodybuilders' and the 'the non-judgemental novices', these categories simply offer an overview and do not explain the distinctly different ideas explored within the communities by those who use them.

When looking broadly across the forums, the way in which UWL drug use was perceived by women varied from 'discourage all' to 'encourage all'. However, within this again, there were variations. For some forums, such as 'the hardliners' forum, an exercise and fitness driven forum, the advice given was to discourage all UWL drug use regardless of the person asking. In this case, it did not matter whether the person asking was a bodybuilder, male, female or what their level of knowledge around UWL drugs was. In comparison, 'the in-group bodybuilder' and 'the self-righteous expert' forums, dissuaded some forum members but not others. In these groups, UWL drugs were seen as very much the '*expert bodybuilder*' domain, not suitable for women or for those looking for a quick fix in order to lose weight. In particular, those women who were viewed on the forums as overweight and who had not tried other weight loss strategies were actively dissuaded from using, sometimes in a manner which could alienate those forum members.

At the other end of this spectrum were forums who encouraged all UWL drug use, regardless of who was asking. This was seen most frequently in 'the non-judgemental novices' forum. On this forum there was a clear lack of understanding between the

different types of weight loss drugs and supplements, however advice was given in a non-judgemental manner and seemed to be well intentioned. Furthermore, on this forum where women did disagree with each other this often left those seeking advice feeling confused and conflicted with which path they should take. Another forum which falls into the '*encourage all*' group was 'the weight loss drug promoters' who actively encouraged UWL drug use with any anti-UWL drug discussion ignored. Within this forum, however, it is important to note that many forum members were using the forum to advertise and promote the sale of UWL drugs, suggesting that there may have been ulterior motives for their pro UWL drug attitudes. The remaining forums were far more mixed in their perceptions of UWL drug use and there was not an obvious forum stance evident in the communities already discussed. For women avoiding using UWL drugs, this was due to perceived levels of risk in the case of 'the caregivers' forum, the forum member's own levels of knowledge about the drugs as in 'the weight loss journey mums' or over concerns of using non-prescribed medicines in the case of 'the overweight and frustrated'.

As in the female UWL drug users, the different forum types can also be considered as a spectrum, ranging from the '*hardcore*' bodybuilders, the fitness fanatics and those interested in fitness and diet to forums used by those who are potentially overweight and seeking advice on quick fix weight loss. Their attitudes, perceptions and knowledge base of UWL drugs vary considerably and similarly what the members want to achieve from their weight loss differs. They are mixed population forums, which have a diffusion of expectations and ideas. As such research exploring online communities, even when focusing on a specific group such as female UWL drug users, cannot consider all online communities where relevant discussion takes place to be the same. Furthermore, female forum users themselves will be exposed to a range of responses, attitudes and perceptions concerning UWL drugs. This is an important consideration when exploring the role of online communities in providing health messages. Whilst it is not within the remit of this research to explore which online community provides the best or most informed advice, it is important to consider these variations and have an awareness that the populations, forum stance and attitudes are mixed and complex. As such, what people take away from those forums will also vary.

### 7.6 Dynamics of online forums – Sharing advice

Online forums are often used for sharing advice, knowledge and ways to reduce harm (Soussan and Kjellgren 2014, Davey et al. 2012). However, where this works best is in communities that are strong, unified with shared goals, ideas and practices. However, the forums analysed within this research often did not have this unified and strong identity. Social identity theory first devised by Tajfel and Turner (1979), specifies and predicts the circumstances under which people feel part of a group (in-group) or not (out-group). Social identity theory has been applied previously to online communities, (Pendry and Salvatore 2015, Nicholls and Rice 2017, Code and Zap 2010) and is concerned with how individuals identify themselves and how others view them and identify with them. In order to identify with a particular group of people, individuals look for similarities between group members and themselves. Those who are '*in-group members*' are those whose beliefs, attitudes and opinions match those of the rest of the group. Those who do not conform to the group's identity are '*out-group members*'. In-group members are more influential than out-group members and this applies to how others view the in-groups level of ability and how much they are influenced by their decision (Barnum and Markovsky 2007). Specifically within online research, in-groups and identification with the online forum led to both increased levels of satisfaction with their lives, both online and offline as well as increased levels of participation on that forum. Furthermore, those who identify with a particular group are more likely to be influenced by that group, and research has indicated that those with shared goals, e.g. of losing weight and a stronger shared social identity within an online group are more likely to achieve their goals (Farrow et al. 2016). Whilst this is useful for those who have shared goals, what about those online group members who do not have that same shared social identity? Furthermore, what are the implications when online users are promoting unhealthy or dangerous practices?

In this research, several of the forums had clear '*in group members*'. This was most obvious for the '*in-group bodybuilders*', '*the hardliners*', '*the weight loss drug promoters*' and '*the self-righteous experts*' forums. Whilst this was seen in varying degrees across most of the online communities it was those communities where '*outgroup members*' were most obviously evident. Whether women were considered in-group or out-group members was sometimes based on the characteristics of the user as seen in Figure 8. For example, for the in-group bodybuilders and self-righteous experts forums, those viewed as in-group members were the competition bodybuilders with those women looking to use UWL drugs



as a quick fix for stubborn weight loss seen as out-group members. Conversely, for the 'weight loss drug promoters' forum, all women asking about UWL drugs were viewed as in-group members. Here, those viewed as out-group members was not based on the characteristics of the forum users but instead those who frowned upon UWL drug discussion. The shared goals of each community differed and how members conformed to those shared goals dictated whether they were seen as in-group members or not. This was also apparent in how advice was given and received within each of the communities. Figure 9 shows the characteristics of advice shared on each forum, with some forums such as the 'weight loss drug promoters' encouraging UWL drug use in all women who sought advice, some forums like 'in-group bodybuilders' encouraging some and not others and the 'the risk averse' discouraging UWL drugs for all women. Within many of the forums, there was a perceived hierarchy of users. Male bodybuilders were very much seen as the being at the top of this hierarchy both on bodybuilding and non-bodybuilding forums. There were frequent references to bodybuilders being the expert group when it comes to UWL drugs, many saying that drug use should be confined to these groups and advice from that group seen as being optimum.

As previously discussed forums often took a 'stance' around whether to encourage or discourage UWL drug, and those who subscribed to that stance were very much viewed as the '*in group members*' with other forum members paying more attention to them, responding to their threads and taking their advice on board. Furthermore, for those not perceived as being an in group member then the advice offered was often not taken on board, or as in the case with UWL drug user, Nicola, meant barriers were put in place, preventing those members from becoming a moderator or forum leader. For '*outgroup members*', how they took this advice was dependent on their views, perceptions and attitudes and how much these matched the overall forum stance. For those forum members who were discouraged from using UWL drugs, the outcomes from this were varied. For newer forum members who were perhaps trying to become in group members, the advice was often taken on board. It is however impossible to know outside of the forums whether this was the case. Others however, then became alienated from the forums, either arguing back, no longer responding to the thread or becoming frustrated with the messages they were receiving. For those who do not conform to the group's identity and who disengaged entirely with the online community, it is then impossible to

know what they did next. Potential outcomes could have been to ignore the advice and take UWL drugs regardless, go to another online community (or offline group) and see if the response was different there or either on the same forum or a different forum, use a different online ID to simply ask the question in a different way. For those who received a pro UWL drug response, this was then likely to validate their existing opinions of UWL drug use and cement their identity within that group. In these instances, where the forums identity was to encourage UWL drug and other drug use, and where there were key leaders within the online communities, this creates a cause for concern as forum members' drug use becomes validated.

This complex interplay between advice sought and the forum dynamics is pivotal in offering some level of understanding to how online communities can be used effectively in sharing information about UWL drug harm reduction. When forum members took the time to explain the risks involved in using the drugs and were not judgemental, as well as when the dynamics of the forum was supportive, positive and less dictated by an overwhelming group identity, others often reacted in a more positive manner. However, for researchers looking to use online forums to deliver public health interventions there needs to be consideration given to the online group's identity. Furthermore, the ways in which this information is delivered needs to be considered alongside other factors such as the expertise of the person giving the information, how they are viewed on the forum and the intentions behind the advice.

Whilst a strong sense of identity, with shared goals, ideas and practices was seen across some forums it was not seen across all. Additionally, for those communities that had a strong identity, for those women who did not conform to the shared goals and who were therefore seen as outsiders, this led to an hostile environment and frustrated forum users. The diffusion of ideas, experiences and perceptions of UWL drugs seen across the forums as well as the variations in those using them ultimately means that the possibility for online harm reduction is limited or may require more consideration in supporting those with individual needs and requirements.

Figure 8. Types of UWL drug users on online forums

Competition Bodybuilder		Aspiring bodybuilder	Fitness focused	Appearance focused	Overweight/ obese	Targeted weight loss	Event related	Stubborn spots
In-group bodybuilders. In group								In-group bodybuilders. Out group
								The risk averse. Out group members
				The overweight and frustrated. No obvious online group identity				
			The advice seekers. No obvious online group identity					
		The non-judgemental novices. In group members						
	The hardliners. In group members							The hardliners. Out group members
			The weight loss journey mums. In group members					
			The caregivers. In group members					
		The weight loss drug promoters: In group members						
The self-righteous experts: In group members								The self-righteous experts. Out group members

Figure 9. UWL drug advice shared on forums

Discourage all	Discourage some	Encourage all
	In-group bodybuilders.	
The risk averse		
The overweight and frustrated.		
The advice seekers		
The non-judgemental novices		
	The hardliners	
The weight loss journey mums		
The caregivers		
		The weight loss drug promoters
	The self-righteous experts	
Ineffective/Dangerous	Only for the expert	The ultimate solution

### 7.7 Experiences of UWL drug use

There is very little evidence concerning the experiences of those using UWL drugs. By utilising online forums in this research and taking into account the experiences of those using different types of UWL drugs and for different types of reasons, this research has identified many different user experiences. Many women found the drug they were using to be effective citing such changes as '*increased energy*', '*weight loss*', '*suppressed appetite*' and '*increased confidence*' following weight loss. Even some women who experienced side effects considered these par for the course and worth it, if it meant they lost weight. There were also many women who felt that using an UWL drug, had '*kick-started*' them into losing weight and helped them to stick to diet and exercise regimes. Conversely, women also reported that the UWL drug did not work for them, or that they did but the weight loss was not long term, i.e. as soon as they stopped taking the drugs, they put weight back on. A recurring theme was that using UWL drugs did not deal with the underlying reasons for why the women had gained weight in the first place. It is important to remember that the data presents self-reported effects of UWL drugs that cannot be confirmed, nor can we know the role of the nocebo and placebo effects in generating these perceived effects

Far fewer experiences were found for rimonabant when compared to DNP and sibutramine, which could suggest that less women are taking rimonabant. It is not clear however, whether this was due to perceived side effects of rimonabant, lack of awareness of the drug or whether there was just a lack of discussion on the particular forums used within this research. In terms of side effects, most commonly reported for both sibutramine and rimonabant were nausea and increased thirst. For sibutramine specifically, users also reported feeling irritable, spaced out and having an increased heart rate. For DNP, most commonly reported side effects were overheating, sweating, diarrhoea, constipation, hives and an irregular menstrual cycle. Whilst much of the discussion so far has focused upon the female UWL drug user, the ways in which information is shared and the dynamics of online communities, a more simple but equally important finding are the risks women are willing to take in order to lose weight. Whilst, there may be differing levels of risks being taken, dependent on the drug, the dose and knowledge base, these three drugs are all unlicensed because they are harmful substances. However, what is clear from the online forums is that many women are

experiencing side effects from using these drugs but, in many cases, this is not deterring them from using the drugs. When female forum users and those interviewed spoke about their experiences, positive experiences were synonymous with a high level of weight lost and negative experiences synonymous with little or no weight lost. It was rare that the side effects were enough to deter use. For this group of women, the effect of the drug outweighed any negative health consequences of side effects.

Purchasing of UWL drugs was not discussed frequently on online forums. This was often due to restrictions being placed on forum members prohibiting them from doing so. Interviews with forum moderators indicated that this discussion, if it did take place, was in closed areas of the forum that were not accessible to the researcher. However, the discussion which did take place indicated that most users reported purchasing their drugs online. There are many implications of purchasing drugs online mainly that users are purchasing an unknown content. The drugs may not be the correct dose, may be adulterated or may be something completely different to what the user believes the drug to be. Purchasing online also poses a greater risk than purchasing from physical shops as there is limited comeback for the purchaser as well as there having to be trust in those who are selling. This group of drugs being unlicensed and people accessing through other channels means that health care professionals cannot do relevant screening, e.g. drug interactions, or ascertaining whether those using have underlying health problems which may exacerbate side effects. This poses a new problem for public health as users who might, if seeing a health care professional, not have been prescribed these drugs, may now be easily accessing them online.

#### 7.8 Engaging with online communities - harm reduction online

As previously outlined, online forums can be effective in influencing other forum members. For UWL drug use, however this could mean women are encouraged to engage in risky behaviours. This section of the thesis considers the role of online forums in offering harm reduction to UWL drug users. Whilst, content on the forums was not checked for quality or accuracy of advice, this work can still offer an insight into whether online communities are best placed to provide this type of advice. Harm reduction aims to reduce the negative consequences, which are associated with a potentially harmful behaviour such as the use of drugs. Within drugs research, there are many types of harm reduction strategies ranging from specific interventions such as needle and syringe programmes, substitution

treatments, drug consumption rooms, drug testing and information, education and communication. For UWL drug use, some harm reduction strategies, such as needle and syringe programmes are not applicable and for online communities the focus can really only be concerned with providing information and education about drug use. Targeted information interventions have been proven effective in reducing harm linked with drug use (Hunt 2003), however the effectiveness of interventions such as these in UWL drug users has not been investigated. Previous research has identified harm reduction and drug prevention messages shared within online drug forums (Davey et al. 2012) and made suggestions for the consideration of harm reduction strategies delivered through online communities as a potential area for future research. Whilst, there is an agreement from this research that online forums could be potentially appropriate places for harm reduction strategies to take place, key considerations are first required.

Firstly, who is best placed to deliver the information? Analysis of the online forums highlighted that there are those members within online forums who are viewed as the '*experts*', who conform to the stance of the forum and are '*in-group*' forum members. These members are often well respected on the forums, however UWL drug interviews highlighted that these members often do not have the time to respond to those asking for advice. In these instances, other members of the forum who may have less experience and knowledge around UWL drugs would offer advice that was not always felt to be the most appropriate. Another potential avenue for consideration are the online forum moderators. However, what was apparent from the moderator interviews are that whilst some moderators do care about their forum members and share what they deem to be the best advice, other moderators are duplicitous in their roles. Moderators who are also using the forums to sell drugs, or who have other agendas are not suitable for providing online harm reduction due to their intentions and motivations not being for the health of the forum members. Health care professionals, researchers and academics are another potential group. However, the often hidden nature of UWL drug use and suspicions both forum users and moderators had towards the researcher in this study means that this would not be an easy route. Furthermore, comments seen on both forums and from the forum moderator Josh suggested that particularly for bodybuilders or those aspiring to be bodybuilders, the aesthetic of those giving advice carried more credence than the level of knowledge. In other words, women using these drugs were more likely to listen to somebody who had

the body they desired than a health care professional or academic. Lessons can be learnt from forums such as Bluelight<sup>35</sup> which has a focus on harm reduction (Chiauzzi et al. 2013) and where dialogue between researchers and forum members and moderators is encouraged (Barratt and Lenton 2010).

The second consideration is what information should be shared. There is very little evidence concerning how to use UWL drugs in a safer manner. Both sibutramine and rimonabant have been withdrawn from the market and for DNP they have been no clinical trials testing its efficacy. Furthermore, the information on online forums is often based on experiences rather than evidence and is also often, for DNP in particular based on a male model. What may be a '*safe*' dose for a male bodybuilder may be different to what is safe for an overweight woman or even a female bodybuilder. Current advice for DNP also suggests the use of supplements to minimize harms, however there is no evidence that these supplements do reduce harm. Furthermore, those selling UWL drugs are likely also to be selling supplements so may have a vested interest in promoting the use additional supplements. Advice could be provided concerning the potential risks of using these drugs. However, given the narrow therapeutic window, which DNP offers, any advice concerning how to take would need a great level of consideration.

The third consideration, is concerned with where information should be shared. Again, this is complicated. Whilst DNP, is potentially the riskiest of the three drugs and most often discussed on bodybuilding forums, this does not necessarily mean this is the only place education and advice would fit. What information should be shared would need to be tailored to which online community it was shared on. The advice a bodybuilder requires would differ from the advice required by somebody on a more general lifestyle forum who has never used a weight loss product before. Similarly, considerations would also need to be given concerning how this information is shared, in terms of how scientific it was, in for example giving information concerning the chemical properties of the drugs.

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<sup>35</sup> Open drug discussion board

### 7.9 Moving the research forward

Building upon the literature review, the research presented details a study focusing upon the female users of UWL drugs, the underlying motivations for using these drugs, what side effects are being experienced as well as exploring ways in which, from a public health perspective, UWL drug use can be best addressed. There is little research on UWL drug use and none focusing specially on female experiences. Due to a lack of knowledge about who uses these drugs and why, there is also nothing in the literature which explores the public health implications of UWL drug use in women, or on harm reduction or health strategies. This study, using an in-depth online forum analysis (from ten forums) as well as interviews with both forum moderators and UWL drug users has identified key female UWL drug users and their motivations for using as well as formulating discussion around appropriate harm reduction strategies for those online communities.

This research has demonstrated the sheer volume of online discussion relating to UWL drug discussion fuelled by body image concerns and pressures. The perceived need to improve, hone and beatify women's bodies is pervasive and the use of strategies including the use of UWL drugs to achieve that look is widespread within online communities. What this research has also demonstrated is the use of online forums in discussing UWL drugs. This has highlighted the levels in which online users engage with online communities as well as the levels of trust they place in those communities epitomised by taking advice on which drugs to use, whether they should use them and in some cases, where to purchase them.

This research has also contributed to discussion concerning online research within a health setting. This research has set out a systematic way to conduct online research which can be utilised by other researchers and a paper has already been published, following this work highlighting both the merits of online research as well as ethical considerations.

### 7.10 Limitations of the study

Whilst this study has added to the existing literature on UWL drug use and online research, it is acknowledged that there are limitations.

This research involved the analysis of ten large forums with large amounts of data being produced. Whilst this was important for this research, which was exploratory in nature, it meant that it was not possible to drill down into the details of individuals users on the forum. Quotes have been presented from forums, however



as they were analysed by forum rather than individual user, there is no way of knowing which quotes came from the same person, only if they came from the same forum. This means that it is not possible to know whether the data comes from only a small number of vocal people or represents views and experiences from many different people. Furthermore, because members were not tracked there was no way of identifying long-term effects from UWL drug use, unless the forum user explicitly stated that this was the case.

Linked to the previous limitation was the omission of setting a time period when selecting threads and posts. Originally, this was done to explore how forum users had handled sibutramine and rimonabant being withdrawn from the market. However, it resulted in a lot of irrelevant data being downloaded. This discussion was primarily from users who had been prescribed these drugs via a health care professional prior to their withdrawal. Whilst the selection process in identifying the forums included was systematic, a more systematic process should have been used in identifying threads within the forum.

It is not possible to guarantee that all forum posts used within the online forum analysis came from women. However, steps were taken to minimize the risk of men being included in the research. The steps included using forums with high proportions of female users, taking threads from female specific sub forums, looking for threads where forum users specifically stated they were a woman or where their gender was specified on their profile and removing discussion where the forum user had specified they were a man.

Whilst approximately 89% of adults within the UK use the internet, 9% do not use the internet at all. Furthermore, a smaller proportion of the population use online forums to seek health advice. Therefore, this research only explores UWL drug use and discussion in women who are using online forums and excluded the views of those who do not.

This research focused on online forums that were based within the UK and had a high proportion of UK users. However, it is impossible to know for sure whether all quotes used were from women based with the UK, given the far reaching nature of the internet.

The interview with forum moderator, Josh highlighted that just reading online forum post does not mean that a full understanding of online communities was gained. Without interviewing Josh, it would not have been apparent that he was acting as both moderator and drug seller under different online guises. Furthermore, the interview with UWL drug user, Nicola (who was also a moderator) who discussed how she was blocked from becoming a moderator for being a woman would also have not been apparent just by reading online posts. This is a strength of using multi methods research, which advances our understanding. By conducting both an online forum analysis and interviews with moderators and UWL drug user led to more understanding of how online forums operate. However, for those online communities where a moderator or UWL drug user was not recruited, it may be that there are other '*behind the scene*' activities occurring which could not have been picked up from this research.

Online research can only offer a snapshot of discussion at that point in time. Subsequent searches of online communities where UWL drug discussion is taking place has identified additional communities within eating disorder and proana forums. However, these forums were not found during the original searches and discussion on these forums relating to UWL drug use appears to have predominately taken place post the data collection period. For re-emerging drug markets such as these, researchers need to be aware of the rapidly changing nature of both the markets and the online communities when conducting research of this nature.

For ethical reasons, only publicly available forums were accessed. No private forums were accessed and neither were any other private online groups, e.g. private Facebook groups. Given the illicit nature of this drug use, it may be that discussion was occurring in more hidden online environments. This was particularly highlighted following the interview with Mark (moderator) who discussed the culture of denial concerning enhancement drug use.

Linked to the above limitation is the idea of female disclosure of UWL drug use. The interview with Nicola (UWL drug user) highlighted this through her comments about how many women will never disclosure their UWL drug use. The hidden nature of this particular type of drug use may mean that even on forums, those

who are using these drugs may not be engaging with online forums or may not be being honest.

Moderators were only recruited from bodybuilding or drug specific forums meaning that an overview of moderating a more general lifestyle forum where UWL drug discussion took place was not established. Therefore the opinions of moderators presented are only those who arguably may have had a greater awareness of UWL drugs, this may have not been the case on other online communities, such as dieting, parenting or general lifestyle forums.

This research did not assess the quality of the information given on forums or that given in interviews. Whilst forum users were referred to as being informed or uninformed this was linked to how they perceived themselves or were viewed on the forums rather than how knowledgeable they were and the accuracy of the information they provided.

Forum moderator consent was not gained to access online forum posts. Whilst this had been agreed from an ethical point of view, it was subsequently problematic when recruiting forum moderators. Contacting moderators for interview was the first time they had heard about the research and as such, it made them suspicious and wary, resulting in some cases in the researcher being banned from the forums.

Likely linked to the previous limitation, were the small interview numbers for both the online forum moderators and online UWL drug users. For the moderators, they were suspicious of the research and did not want to engage. For both the moderator and UWL drug user interviews, the fact they were being recruited online meant it was very easy for them to disengage. This happened often, with potential participants originally agreeing to take part and then going offline so it was no longer possible to engage with them.

#### 7.11 Implications for policy, practice and future research

This research identified key issues around UWL drug use in women as well as the role online forums play in sharing advice and information. Whilst research already exists which explores the discussion of weight loss and other enhancement drugs within online settings (Corazza et al. 2014, Davey et al. 2012, Petróczi et al. 2015, McVeigh et al. 2016, Van Hout 2014b), this research offers a female focus for a group of drugs previously researched

within male dominated setting. Furthermore, the inclusion of interviews with both forum moderators and women who have used UWL drugs offers further insight into UWL drug use and the role and positioning of online communities. The results identified a number of implications from this research for policy, practice and future research.

The widespread nature of idealised thinness and pressures on women to conform to unattainable figures needs to be addressed. These pressures are contributing to women engaging in increasingly risky behaviours in order to achieve the physique they desire. Further, these pressures are having devastating impacts on women's levels of body satisfaction and confidence. Campaigns which aim to celebrate body positivity, such as 'fitspiration', 'strong is the new skinny' or those celebrating fuller figures only serve to switch body ideals from one to another. The objectification and sexualisation of women, as seen in the media only enhances this issue and is part of a bigger societal problem where women are still being judged based on how they look rather than what they achieve. Whilst in today's society, this should be an antiquated concept, it is now more pervasive than ever.

This research captured female user experiences of UWL drug use and highlights the diverse nature of female UWL drug users arguing against there being a typology of use. The wide reaching nature of this research was important in identifying those very different female voices and those engaging in public health research should consider the extent to which we come to research with assumptions and expectations concerning who our populations are. For both policy and practice, when developing specific harm reduction initiatives, consideration should be given to the diverse population of UWL drug users with recognition that a 'one size fits all' model of treatment or intervention may not be appropriate. Future research is warranted which explores UWL drug use further. In this research, large quantities of data were collected which provided an overview of UWL drug use but did not 'drill down' into individual's journeys. In order to further explore UWL drug use in women, research should focus on the detailed motivations for UWL drug use and explore user's journeys in order to increase our understanding of the decision processes leading to both commencing and continuing drug use as well as long term risks and experiences.

This research demonstrates that women do use UWL drugs. The use of DNP in particular in women has not previously been acknowledged. There appeared to be an unwillingness

for UWL drug users to discuss their drug use with those in their 'real life' such as family members, friends and also health care professionals due to fears of judgement, embarrassment or stigma. This reluctance appears heightened for women, as engaging in risky appearance driven behaviours may be deemed to be at odds with their role as mothers or caregivers. Due to the legal and unlicensed status of this group of drugs, they are no longer seen as the responsibility of health care providers. However, health care providers should be aware that women are using these drugs and in doing so, are putting themselves at risk. However, the risks of using these drugs was not always a factor in preventing use and there is a particular danger for those users who view themselves as the experts as there have been no clinical trials of DNP. Therefore, advice on how to use is only based on anecdotal experiences and not evidence and as such there may be an overconfidence in use. Health care professionals, such as GPs need to reclaim responsibility of UWL drug use and should have an awareness of weight loss supplements and drugs, the use of drugs bought online and the risks associated with this. Due to the hidden nature of this drug use, health care professionals need to be vigilant and should be aware of the presentation of harms, which is associated with UWL drug use.

The banning of sibutramine and rimonabant, and the fact that DNP has never been licensed has not prevented women from using these drugs. Instead, women are placing trust in the internet for both gaining advice and purchasing drugs. These drugs may be adulterated, not contain correct information on dosing or may pose a risk of drug interactions. Furthermore, women will be using these drugs without health care professional supervision

This research combined UWL drug use, focusing upon sibutramine, rimonabant and DNP. However, there are vast differences of experiences and risks of the three drugs. Future research should focus on the specifics of each of those drugs, as well as other drugs with weight loss properties, in terms of potential risks, experiences and what harm reduction message would be of use. Additionally, as all three drugs have an unlicensed status, some women may class these drugs as being the same. Considering DNP to be only as dangerous as sibutramine and rimonabant is a cause for concern. This issue was exacerbated by conflicting advice and information provided online and because online searches for 'weight loss drugs' often groups these drugs together with little differentiation between them. A scoping of the online UWL drugs market is required in order to make

recommendations of what advice, education and information is required for those considering using them.

Online communities can also play a role in harm reduction however, how this is conducted requires planning and thought. This research demonstrates that UWL drug users were more likely to listen to those who they respected within online communities and who possessed the aesthetic they desired as opposed to health care professionals or academics. This seemingly positions online forums as ideal places for the sharing of harm reduction information. However, for groups as diverse as female UWL drug users, the organisation and structure of online forums delivering such information needs careful consideration and should take into account that:

Much online UWL drug discussion is based on male norm models and may not always be applicable to women. Development of specific harm reduction information for women who use or are contemplating the use of UWL drugs is warranted.

There are currently few online spaces for women that offer reliable and informative harm reduction advice in a non-judgemental way. Online communities were either male dominated, offering advice on harm reduction but dismissive of female voices or female dominated but with users who had very little experience of UWL drugs. Development of online spaces which encourage female input and offers information and advice should be considered.

Not all forum moderators are ideally placed to offer UWL drug harm reduction information due to their levels of knowledge and respect within the forums. Complexities around what is classed as appropriate harm reduction, the dynamics of the online forum, the moderators levels of knowledge and the intentions of those moderators all need to be first considered. Furthermore, for those moderators who are also supplying the drugs, there is likely to be a conflict of interest.

Women place a great deal of trust in other online forum users. However, there is a level of naivety with this. Anonymity online means that online users can share advice, make statements and provide information with little comeback.

Furthermore, online users can create multiple accounts in order to advocate for a particular point or for deceitful reasons such as marketing their products.

This research has highlighted that online communities where UWL drug discussion takes place are diverse. This is in terms of the perceived levels of knowledge users have, the motivations for use, and level of willingness to take risks. If harm reduction strategies are to be put in place within these online communities then they need to be tailored to each specific community's requirements.

Online community members should all receive information on basic awareness and education of the different types of UWL drugs and risks of use. Whilst this information will be of most use for those forums where users are new to weight loss drugs and do not have a great deal of knowledge concerning them, ensuring up to date and evidence based information is provided will benefit all of the online communities. For those forums where users view themselves as the informed users, previous research has already identified reluctance within these users to respond to messages which rely upon scare tactics and prevention (Ainsworth et al. 2018). However, these communities are publically accessible therefore, not all forum users will have the same knowledge base. Additionally, even within those users who perceived themselves as informed there was still much unsubstantiated and conflicting information. Involving established forum members in discussion about how information should be disseminated will be empowering for those users and furthermore will signpost newer members to the most relevant information, allowing them to bypass anecdotal experiences and 'broscience'. Alongside this, established forum members should be engaged with by academics and policy makers in how to engage newer members on the forum, ensuring that they are receiving appropriate harm reduction education, which does not make assumptions about their level of knowledge or physique. For these communities, information which focuses upon decreasing harm rather than drug use should also be in place. For DNP in particular which has such a narrow therapeutic window and where tolerance can differ so much from person to person, a shift away from advice based on experience is required. As on many of these communities peer experience was valued however, peer to peer provision of evidence based information may instead be more appropriate.

Whilst this research argues that there is no typical weight loss drug user, it has identified some users not identified in previous research. These include recent mothers, traditional

drug users, fitness fanatics, those generally trying to lose weight and those trying to lose weight due to a health condition. For these users, specific and targeted education, advice, signposting and engagement is recommended. Engagement is firstly needed with each of those health care providers who would be likely to treat or see each of these groups including both general health providers such as GPs and practice nurses as well as specific services such as those working in the exercise industry, maternity services, drug services and weight loss services. Health care professionals should be aware of the risks of using these drugs as well as mindful of the presentation of harms associated with use and engage with those using these drugs in an empathetic and non-judgemental manner. Signposting of relevant information such as the interactions between different drugs for recreational drug users and contraindications for those with medical conditions should be provided as well as signposting users to those relevant health care providers.

Future research should explore forums where the integration of academics and health care professionals has already been successful, e.g. Bluelight and establish whether the structure of those communities can be applied to female UWL drug users. A scoping of the feasibility of moderators as gatekeepers for these communities is also warranted. Furthermore, the trust that is put into online discussion forums supports the need for early education to be offered around who and what to trust online.

This research contributes to the value of online methods research by outlining a systematic process for undertaking this type of research. Further research should utilise these methods and expand them into other methods of online communication, e.g. social media, blogs and vlogs. Furthermore, this research has also identified a real time discovery of the extension of this public health problem with a particularly vulnerable group, those with eating disorders. The fast-paced nature of online communities as well as the diffusion of these drugs into different types of users poses another challenge for public health. Those working in these field should not assume they already know who these users are, but be mindful that this is a constantly changing population. This research has looked retrospectively at forum posts, future research should continue to monitor online communities prospectively to enable rapid identification of new users of UWL drugs. The internet progresses and develops quickly and researchers should keep abreast of these changes in order to adequately research online groups.



### 7.12 Conclusion

Using large quantities of data from online forums, as well as interviews with forum moderators and UWL drug users, this research has presented a structured and systematic processes for identifying online samples and categorising both online forum and female UWL drug users. This research has provided an overview of female UWL drug use and discussion within online communities. In particular, characteristics of UWL drug users and forums have been identified as well as an exploration of the influencers, structure, content and perceptions of risks on those forums. The motivations for both UWL drug use and online engagement have also been explored. This research identified the ways in which women engage on online forums as well as exploring the ways in which information is shared and how the environment of the forums plays a role in this.

This research is the first stage of the process required to fully exploring UWL drug use in women. The pervasive nature of body image concerns and the means women will go to in order to achieve the body they desire has been identified. Additionally, this research highlights that removal of a licence from a drug does not necessarily prevent use and in fact causes greater risk through the use of these drugs without supervision. Furthermore, fear of side effects or harms is not always a factor in UWL drug use decision making processes, with harms often either not being recognised or being downplayed. The trust women place in others online is also evident with many using online forums to seek advice from online members and potentially naively viewing others as UWL drug experts. However, what is also apparent is those providing advice may not always be the best suited for providing information on harm reduction. UWL drug user engagement needs to be reclaimed as part of a wider health agenda, something that has been lacking due to these drugs not being licensed. Recommendations have been made for engaging with the many different users which presented within this research. However, further research and consideration is needed concerning what the best approaches for this should be, identifying those who have authority and respect within the community, but also have the credentials, knowledge, skills and desire to offer advice.

## References

- Ainsworth, N. P., Vargo, E. J. and Petróczi, A. (2018) 'Being in control? A thematic content analysis of 14 in-depth interviews with 2,4-dinitrophenol users', *INTERNATIONAL JOURNAL OF DRUG POLICY*, 52, 106-114.
- Alexa (n.d.) 'Actionable Analytics for the Web', [online], available: <http://www.alexa.com/> [accessed 02/06/2015].
- All Party Parliamentary Group (2012) 'Reflections on body image', [online], available: [https://www.berealcampaign.co.uk/assets/filemanager/documents/appg\\_body\\_image\\_final.pdf](https://www.berealcampaign.co.uk/assets/filemanager/documents/appg_body_image_final.pdf) [accessed 21/12/2017].
- Anschutz, D. J., Engels, R. E., Becker, E. S. and van Strien, T. (2008) 'The bold and the beautiful: Influence of body size of televised media models on body dissatisfaction and actual food intake', *Appetite*, 51, 530-537.
- Arden, M. A., Duxbury, A.M.S., Soltani, H. (2014) 'Responses to gestational weight management guidance: a thematic analysis of comments made by women in online parenting forums', *BMC Pregnancy and Childbirth*, 14(216).
- Arterburn, D. E., Crane, P. K. and Veenstra, D. L. (2004) 'The efficacy and safety of sibutramine for weight loss: A systematic review', *Archives of Internal Medicine*, 164(9), 994-1003.
- Astrup, A., Christensen, R., Bartels, E. M. and Bliddal, H. 'Efficacy and safety of the weight-loss drug rimonabant &#x2013; Authors' reply', *The Lancet*, 371(9612), 556-557.
- Attard, A. and Coulson, N. S. (2012) 'A thematic analysis of patient communication in Parkinson's disease online support group discussion forums', *Computers in Human Behavior*, 28(2), 500-506.
- Baker, C. (2017) 'Obesity Statistics: Briefing paper', [online], available: <http://researchbriefings.files.parliament.uk/documents/SN03336/SN03336.pdf> [accessed 24/02/2018].
- Ball, A. L. (2007) 'HIV, injecting drug use and harm reduction: a public health response', *Addiction*, 102(5), 684-690.
- Barnum, C. and Markovsky, B. (2007) 'Group membership and social influence', *Current Research in Social Psychology*, 13(3), 1-38.
- Barratt, M. (2011) *Discussing illicit drugs in public internet forums: Visibility, stigma, and pseudonymity*, translated by Kjeldskov, J. and Paay, J., Brisbane: Association for Computing Machinery, 159-168.

- Barratt, M. J. and Aldridge, J. (2016) 'Everything you always wanted to know about drug cryptomarkets\* (\*but were afraid to ask)', *INTERNATIONAL JOURNAL OF DRUG POLICY*, 35, 1-6.
- Barratt, M. J. and Lenton, S. (2010) 'Beyond recruitment? Participatory online research with people who use drugs', *International journal of Internet Research Ethics*, 3(12).
- Barratt, M. J. L., S (2010) 'Beyond recruitment? Participatory online research with people who use drugs', *International journal of Internet Research Ethics*, 3(12).
- BBC (2012) 'Sean Cleathero dies after taking 'gym drug'', *BBC News*,
- BBC News (2015) 'Mother's plea after Eloise Parry 'diet pills' death', [online], available: <http://www.bbc.co.uk/news/uk-england-shropshire-32391903> [accessed 24/12/2017].
- Bender, J. L., Jimenez-Marroquin, M. C., Ferris, L. E., Katz, J. and Jadad, A. R. (2013) 'Online communities for breast cancer survivors: a review and analysis of their characteristics and levels of use', *Supportive Care in Cancer*, 21(5), 1253-1263.
- Blanck, H. M., Khan, L. K. and Serdula, M. K. (2001) 'Use of nonprescription weight loss products: results from a multistate survey', *JAMA*, 286(8), 930-5.
- Bleasdale, E. E., Thrower, S. N. and Petróczi, A. (2018) 'Would You Use It With a Seal of Approval? Important Attributes of 2,4-Dinitrophenol (2,4-DNP) as a Hypothetical Pharmaceutical Product', *Frontiers in Psychiatry*, 9, 124.
- Bloomberg, L. D. and Volpe, M. (2016) *Completing your Qualitative Dissertation: A Road Map from Beginning to End*, London: Sage.
- Boothroyd, D. and Lewis, S. (2016) 'Online Drug Scenes and Harm Reduction From Below as Phronesis', *Contemporary Drug Problems*, 43(3), 293-307.
- Boutelle, K., Neumark-Sztainer, D., Story, M. and Resnick, M. (2002) 'Weight Control Behaviors Among Obese, Overweight, and Nonoverweight Adolescents', *Journal of Pediatric Psychology*, 27(6), 531-540.
- Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), 77-101.
- British Association of Aesthetic Plastic Surgeons (2016) 'Daddy Makeovers' and Celeb Confessions: Cosmetic Surgery Procedures Soar in Britain', [online], available: [https://baaps.org.uk/about/news/38/super\\_cuts\\_daddy\\_makeovers\\_and\\_celeb\\_confessions\\_cosmetic\\_surgery\\_procedures\\_soar\\_in\\_britain](https://baaps.org.uk/about/news/38/super_cuts_daddy_makeovers_and_celeb_confessions_cosmetic_surgery_procedures_soar_in_britain) [accessed 21/12/2017].

- British Association of Aesthetic Plastic Surgeons (2017) 'THE BUST BOOM BUSTS', [online], available: [https://baaps.org.uk/media/press\\_releases/29/the\\_bust\\_boom\\_busts](https://baaps.org.uk/media/press_releases/29/the_bust_boom_busts) [accessed 21/12/2017].
- British Psychological Society (2013) 'BPA-guidelines-for-internet-mediated-research', [online], available: [accessed 03/06/2016].
- Brooke, C. (2013) 'Tragedy of the gifted rugby player, 18, who died after buying deadly 'fat-burning' pills online', *Daily Mail*, 09/16/,
- Buckley, N. A., Dawson, A. H. and Isbister, G. K. (2014) 'Serotonin syndrome', *BMJ*, 348, g1626.
- Bunsell, T. (2013) *Strong and hard women: an ethnography of female bodybuilding*, Abingdon: Routledge.
- Burch, J., McKenna, C., Palmer, S., Norman, G., Glanville, J., Sculpher, M. and Woolacott, N. (2009) 'Rimonabant for the treatment of overweight and obese people', *Health Technol Assess*, 13 Suppl 3, 13-22.
- Carels, R. A., Rossi, J., Borushok, J., Taylor, M. B., Kiefner-Burmeister, A., Cross, N., Hinman, N. and Burmeister, J. M. (2015) 'Changes in weight bias and perceived employability following weight loss and gain', *Obes Surg*, 25(3), 568-70.
- Caterson, I. D., Finer, N., Coutinho, W., Van Gaal, L. F., Maggioni, A. P., Torp-Pedersen, C., Sharma, A. M., Legler, U. F., Shepherd, G. M., Rode, R. A., Perdok, R. J., Renz, C. L., James, W. P. T. and on behalf of the, S. I. (2012) 'Maintained intentional weight loss reduces cardiovascular outcomes: results from the Sibutramine Cardiovascular OUTcomes (SCOUT) trial', *Diabetes, Obesity and Metabolism*, 14(6), 523-530.
- Chan, W. L., Peng, E. and Phua, D. H. (2013) 'Dangers of 2,4-dinitrophenol as a weight loss agent: A case report', *Clin Toxicol (Phila)*, 51(4), 280-281.
- Chen, S. P., Tang, M. H., Ng, S. W., Poon, W. T., Chan, A. Y. and Mak, T. W. (2010) 'Psychosis associated with usage of herbal slimming products adulterated with sibutramine: a case series', *Clin Toxicol (Phila)*, 48(8), 832-8.
- Chiauzzi, E., DasMahapatra, P., Lobo, K. and Barratt, M. J. (2013) 'Participatory Research With an Online Drug Forum: A Survey of User Characteristics, Information Sharing, and Harm Reduction Views', *Substance Use & Misuse*, 48(8), 661-670.
- Christensen, R., Kristensen, P. K., Bartels, E. M., Bliddal, H. and Astrup, A. (2007) 'Efficacy and safety of the weight-loss drug rimonabant: a meta-analysis of randomised trials', *The Lancet*, 370(9600), 1706-1713.

- Christiansen, A. V., Vinther, A. S. and Liokaftos, D. (2017) 'Outline of a typology of men's use of anabolic androgenic steroids in fitness and strength training environments\*', *Drugs: Education, Prevention and Policy*, 24(3), 295-305.
- Code, J. and Zap, N. (2010) 'Social identities, group formation, and analysis of online communities' in Dasgupta, S., ed. *Social Computing: Concepts, Methodologies, Tools, and Applications*, Huddersfield: IGI Global.
- Conrad, P., Bandini, J. and Vasquez, A. (2016) 'Illness and the Internet: From Private to Public Experience', *Health (London)*, 20(1), 22-32.
- Convery, I. and Cox, D. (2012) 'A review of research ethics in internet-based research', *Practitioner Research in Higher Education*, 6, 50-57.
- Corazza, O., Bersani, F. S., Brunoro, R., Valeriani, G., Schifano, F. and Martinotti, G. (2014) 'The diffusion of Performance and Image-Enhancing Drugs (PIEDs) on the internet: The abuse of the cognitive enhancer piracetam', *Substance Use and Misuse*, 49(14), 1849-1856.
- Creswell, J. W. (2013) *Research Design. Qualitative, Quantitative, and Mixed Methods Approaches*, London: Sage.
- Cutting, W., Mehrtens, H. and Tainter, M. (1933) *Actions and uses of dinitrophenol: Promising metabolic applications*.
- Dakanalis, A. and Riva, G. (2013) 'Mass media, body image and eating disturbances: The underlying mechanism through the lens of the objectification theory' in Sams, L. B. and Keels, J. A., eds., *Handbook on Body Image: Gender Differences, Sociocultural Influences and Health Implications* New York: Nova Science Publishers, Inc, 217-235.
- Davey, Z., Schifano, F., Corazza, O. and Deluca, P. (2012) 'e-Psychonauts: Conducting research in online drug forum communities', *Journal of Mental Health*, 21(4), 386-394.
- Department of Health and Social Care (2015) '2010 to 2015 government policy: obesity and healthy eating ', [online], available: <https://www.gov.uk/government/publications/2010-to-2015-government-policy-obesity-and-healthy-eating/2010-to-2015-government-policy-obesity-and-healthy-eating> [accessed 07/04/2018].
- Digital Point (n.d.) 'Geolocation Tool', [online], available: <https://tools.digitalpoint.com/geo> [accessed 20/05/2015].
- Dion, K., Berscheid, E. and Walster, E. (1972) 'What is beautiful is good', *Journal of Personality and Social Psychology*, 24, 285-290.
- Donath, J. and Boyd, D. (2004) 'Public Displays of Connection', *BT Technology Journal*, 22(4), 71-82.

- Duchaine, D. (1989) *Underground Steroid Handbook II*, United States: Modern Bodybuilding Publications.
- Elliott, R., Langer, R. and Beckman, S. C. (2005) 'Sensitive research topics: netnography revisited', *Qualitative Market Research: An International Journal*, 8(2), 189-203.
- European Monitoring Centre for Drugs and Drug Addiction (2017) 'European Drug Report: Trends and Development', [online], available: [accessed 16/03/2018].
- Evans-Brown, M., McVeigh, J., Perkins, C. and Bellis, M. (2012) *Human Enhancement Drugs -The Emerging Challenges to Public Health*, The Centre for Public Health.
- Evans, P. C. (2003) "'If Only I were Thin Like Her, Maybe I Could be Happy Like Her": The Self-Implications of Associating a Thin Female Ideal with Life Success', *Psychology of Women Quarterly*, 27(3), 209-214.
- Eynon, R., Fry, J. and Schroeder, R. (2008) 'The Ethics of Internet Research' in Fielding, N., ed. *The SAGE Handbook of Online Research Methods*, London: Sage.
- Eysenbach, G., Till, J.E (2001) 'Ethical issues in qualitative research on internet communities', *BMJ*, 323.
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R. and Halliwell, E. (2015) 'Social comparisons on social media: the impact of Facebook on young women's body image concerns and mood', *Body Image*, 13, 38-45.
- Farrow, C., Tarrant, M. and Khan, S. (2016) 'Using social identity to promote health : the impact of group memberships on health in the context of obesity' in Buckingham, S. and Best, D., eds., *Addiction, behavioral change and social identity: the path to resilience and recovery*, Oxon: Routledge, 52-70.
- Ferguson, C. J. (2013) 'In the eye of the beholder: Thin-ideal media affects some, but not most, viewers in a meta-analytic review of body dissatisfaction in women and men', *Psychology of Popular Media Culture*, 2(1), 20-37.
- Festinger, L. (1954) 'A Theory of Social Comparison Processes', *Human Relations*, 7(2), 117-140.
- Filicori, M., Fazleabas, A. T., Huhtaniemi, I., Licht, P., Rao, C. V., Tesarik, J. and Zygmunt, M. (2005) 'Novel concepts of human chorionic gonadotropin: reproductive system interactions and potential in the management of infertility', *Fertility and Sterility*, 84(2), 275-284.
- Fouts, G. and Burggraf, K. (1999) 'Television Situation Comedies: Female Body Images and Verbal Reinforcements', *Sex roles*, 40(516), 473-481.

- Germain, J., Harris, J., Mackay, S. and Maxwell, C. (2017) 'Why Should We Use Online Research Methods? Four Doctoral Health Student Perspectives', *Qual Health Res*, 1049732317721698.
- Goudarzi, F., Najafi, N., Azarpira, N., Tavakoli, N. and Najafi, Z. (2016) 'Acute Poisoning via Consumption of "Natural Max Slimming" Capsule with Complications (Hyperpigmentation and Lower Extremity Edema)'.  
<https://doi.org/10.1186/s12942-016-0101-1>
- Government Equalities Office (2014) 'Body Confidence: Findings from the British Social Attitudes Survey', [online], available: [accessed 21/10/2014].
- Grabe, S., Ward, L. M. and Hyde, J. S. (2008) 'The role of the media in body image concerns among women: a meta-analysis of experimental and correlational studies', *Psychol Bull*, 134(3), 460-76.
- Grogan, S. (1999) *Body Image: Understanding body dissatisfaction in men, women and children*, London: Routledge.
- Grønning, I. and Tjora, A. (2016) 'Digital absolution: Confessional interaction in an online weight loss forum', *Convergence*, 24(4), 391-406.
- Grundlingh, J., Dargan, P. I., El-Zanfaly, M. and Wood, D. M. (2011) '2,4-dinitrophenol (DNP): a weight loss agent with significant acute toxicity and risk of death', *J Med Toxicol*, 7(3), 205-12.
- Guest, G. (2006) 'How Many Interviews Are Enough?: An Experiment with Data Saturation and Variability', *Field Methods*, 18(1), 59-82.
- Halford, J. C. G. (2006) 'Pharmacotherapy for obesity', *Appetite*, 46(1), 6-10.
- Hall, M., Grogan, S. and Gough, B. (2015) 'It is safe to use if you are healthy': A discursive analysis of men's online accounts of ephedrine use', *Psychology & Health*, 30(7), 770-782.
- Halliwel, E. (2013) 'The impact of thin idealized media images on body satisfaction: Does body appreciation protect women from negative effects?', *Body Image*, 10(4), 509-514.
- Hanefeld, J., Lunt, N., Smith, R. and Horsfall, D. (2015) 'Why do medical tourists travel to where they do? The role of networks in determining medical travel', *Social Science & Medicine*, 124, 356-363.
- Hardon, A. and Hymans, T. D. (2016) 'Guest Editors' Introduction:Harm Reduction From Below', *Contemporary Drug Problems*, 43(3), 191-198.
- Harper, B. and Tiggemann, M. (2008) 'The effect of thin ideal media images on women's self objectification,mood, and body image.', *Sex roles*, 58, 649-657.

- Harrison, K. and Cantor, J. (1997) 'The relationship between media consumption and eating disorders', *Journal of Communication*, 47(1), 40-67.
- Harrison, K., Taylor, L. D. and Marske, A. (2006) 'Women's and men's eating behavior following exposure to ideal-body images and text.', *Communication Research*, 33, 507-529.
- Hawkins, N., Richards, P., Granley, H. and Stein, D. M. (2004) 'The impact of exposure to the thin ideal media image on women', *Eating Disorders: The Journal of Treatment and Prevention*, 12, 35-50.
- Health and Social Care Information Centre (2014) *Prescriptions Dispensed in the Community, Statistics for England - 2003-2013* HSCIC.
- Hekler, E. B., Dubrey, G., McDonald, D.W., Poole, E.S., Li, V., Eikey, E (2014) 'Exploring the Relationship Between Changes in Weight and Utterances in an Online Weight Loss Forum: A Content and Correlational Analysis Study', *Journal of Medical Internet Research*, 16(12).
- Hilliard, M., E., Sparling, K. M., Hitchcock, J., Oser, T. K. and Hood, K., K. (2015) 'The Emerging Diabetes Online Community', *Current Diabetes Reviews*, 11(4), 261-272.
- Holland, G. and Tiggemann, M. (2016) 'A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes', *Body Image*, 17, 100-110.
- Hope, V. D., McVeigh, J., Marongiu, A., Evans-Brown, M., Smith, J., Kimergård, A., Croxford, S., Beynon, C. M., Parry, J. V., Bellis, M. A. and Ncube, F. (2013) 'Prevalence of, and risk factors for, HIV, hepatitis B and C infections among men who inject image and performance enhancing drugs: a cross-sectional study', *BMJ Open*, 3(9).
- Hoxha, B. and Petróczi, A. (2015) 'Playing with fire? Factors influencing risk willingness with the unlicensed fat burner drug 2,4-Dinitrophenol (DNP) in young adults', *Public Health*, 129(11), 1519-1522.
- Hunt, N. (2003) 'A review of the evidence-base for harm reduction approaches to drug use', [online], available: <https://www.hri.global/files/2010/05/31/HIVTop50Documents11.pdf> [accessed 02/03/2018].
- Hynes, A. and Zinkiewicz, L. (2007) *A social identity approach to party drug use and associated harm minimisation*.
- Industry Today (2017) 'Weight Loss and Weight Management Market 2017Market Size, Share, Trends, Opportunities & Forecast', [online], available: [https://industrytoday.co.uk/health\\_and\\_safety/weight-loss-and-weight-management-market-2017market-size--share--trends--opportunities---forecast](https://industrytoday.co.uk/health_and_safety/weight-loss-and-weight-management-market-2017market-size--share--trends--opportunities---forecast) [accessed 20/11/2017].



- James, N. and Busher, H. (2015) 'Ethical issues in online research', *Educational Research and Evaluation*, 21(2), 89-94.
- James , W. P. T., Caterson , I. D., Coutinho , W., Finer , N., Van Gaal , L. F., Maggioni , A. P., Torp-Pedersen , C., Sharma , A. M., Shepherd , G. M., Rode , R. A. and Renz , C. L. (2010) 'Effect of Sibutramine on Cardiovascular Outcomes in Overweight and Obese Subjects', *New England Journal of Medicine*, 363(10), 905-917.
- Jung, J. and Lee, S.-H. (2006) 'Cross-Cultural Comparisons of Appearance Self-Schema, Body Image, Self-Esteem, and Dieting Behavior Between Korean and U.S. Women', *Family and Consumer Sciences Research Journal*, 34(4), 350-365.
- Kanayama, G., Hudson, J. I. and Pope, H. G. (2012) 'Culture, Psychosomatics and Substance Abuse: The Example of Body Image Drugs', *Psychotherapy and Psychosomatics*, 81(2), 73-78.
- Kang, J. G. and Park, C.-Y. (2012) 'Anti-Obesity Drugs: A Review about Their Effects and Safety', *Diabetes & Metabolism Journal*, 36(1), 13-25.
- Kazmer, M. M. and Xie, B. (2008) 'QUALITATIVE INTERVIEWING IN INTERNET STUDIES: Playing with the media, playing with the method', *Information, Communication & Society*, 11(2), 257-278.
- Kim, J. H. and Scialli, A. R. (2011) 'Thalidomide: The Tragedy of Birth Defects and the Effective Treatment of Disease', *Toxicological Sciences*, 122(1), 1-6.
- Kimbrough, A. M., Guadagno, R. E., Muscanell, N. L. and Dill, J. (2013) 'Gender differences in mediated communication: Women connect more than do men', *Computers in Human Behavior*, 29(3), 896-900.
- Kjellgren, A., Henningson, H., Soussan, C (2013) 'Fascination and Social Togetherness-Discussions about Spice Smoking on a Swedish Internet Forum', *Sustance Abuse*, 27(7), 191-198.
- Kjellgren, A., Jonsson, K (2013) 'Methoxetamine (MXE) – A Phenomenological Study of Experiences Induces by a “Legal High” from the Internet', *JOURNAL OF PSYCHOACTIVE DRUGS*, 45(3), 276-286.
- Kjellgren, A., Soussan, C. (2011) 'Heaven and Hell - A Phenomenological Study of Recreational Use of 4 HO-MET in Sweden', *JOURNAL OF PSYCHOACTIVE DRUGS*, 43(3), 211-219.
- Koenraadt, R. and van de Ven, K. (2017) 'The Internet and lifestyle drugs: an analysis of demographic characteristics, methods, and motives of online purchasers of illicit lifestyle drugs in the Netherlands', *Drugs: Education, Prevention and Policy*, 1-11.

- Kozinets, R. V. (2002) 'The Field Behind the Screen: Using Netnography for Marketing Research in Online Communities', *Journal of Marketing Research*, 39, 61-72.
- Kozinets, R. V. (2010) *Netnography: Doing Ethnographic Research Online*, London: Sage Publications.
- Kozinets, R. V. (2015) *Netnography: Redefined*, London: Sage.
- Langan, E. A., Nie, Z. and Rhodes, L. E. (2010) 'Melanotropic peptides: more than just 'Barbie drugs' and 'sun-tan jabs'?', *British Journal of Dermatology*, 163(3), 451-455.
- Langer, R., Elliott, R. and Beckman, S. C. (2005) 'Sensitive research topics: netnography revisited', *Qualitative Market Research: An International Journal*, 8(2), 189-203.
- Laz, T. H. and Berenson, A. B. 'Association of Web-Based Weight Loss Information Use With Weight Reduction Behaviors in Adolescent Women', *Journal of Adolescent Health*, 49(4), 446-448.
- Lean, M. E. (1997) 'Sibutramine--a review of clinical efficacy', *International journal of obesity and related metabolic disorders : journal of the International Association for the Study of Obesity*, 21 Suppl 1, S30-6; discussion 37-9.
- Lee, H.-R., Lee, H. E., Choi, J., Kim, J. H. and Han, H. L. (2014) 'Social Media Use, Body Image, and Psychological Well-Being: A Cross-Cultural Comparison of Korea and the United States', *Journal of Health Communication*, 19(12), 1343-1358.
- Lee, H. C. H., Law, C. Y., Chen, M. L., Lam, Y. H., Chan, A. Y. W. and Mak, T. W. L. (2014) '2,4-Dinitrophenol: A threat to Chinese body-conscious groups', *Journal of the Chinese Medical Association*, 77(8), 443-445.
- Lincoln, Y. and Guba, E. (1985) *Naturalistic Inquiry*, Beverley Hills, California: SAGE.
- Lingel, J. and boyd, d. (2013) '"Keep it secret, keep it safe": Information poverty, information norms, and stigma', *Journal of the American Society for Information Science and Technology*, 64(5), 981-991.
- Llewellyn, W. (2012) *William Llewellyn's Anabolics 10th Edition*, Florida: Molecular Nutrition.
- Lyman, N. and Wakeford, N. (1999) 'Going into the (Virtual) Field', *American Behavioral Scientist*, 43(3), 359-376.
- Margo, C. E. and Harman, L. E. (2014) 'Diet pills and the cataract outbreak of 1935: reflections on the evolution of consumer protection legislation', *Survey of Ophthalmology*, 59(5), 568-573.

- Markham, A. and Buchanan, E. (2012) 'Ethical Decision-Making and Internet Research: Recommendations from the AoIR Ethics Working Committee (Version 2.0)', [online], available: <https://aoir.org/reports/ethics2.pdf> [accessed 13/03/2017].
- Martin, J. and Christin, N. (2016) 'Ethics in cryptomarket research', *Int J Drug Policy*, 35, 84-91.
- Matharu, H. (2014) 'Body-building obsessed UCA Epsom student Sarmad Alladin killed by deadly DNP tablets', *Your Local Guardian*,
- Mathon, C., Ankli, A., Reich, E., Bieri, S. and Christen, P. (2014) 'Screening and determination of sibutramine in adulterated herbal slimming supplements by HPTLC-UV densitometry', *Food Additives & Contaminants: Part A*, 31(1), 15-20.
- McFee, R. B., Caraccio, T. R., McGuigan, M. A., Reynolds, S. A. and Bellanger, P. (2004) 'Dying to be thin: a dinitrophenol related fatality', *Vet Hum Toxicol*, 46(5), 251-4.
- McLean, S. A., Paxton, S. J., Wertheim, E. H. and Masters, J. (2015) 'Photoshopping the selfie: Self photo editing and photo investment are associated with body dissatisfaction in adolescent girls', *International Journal of Eating Disorders*, 48(8), 1132-1140.
- McMurray, C. (2004) 'The Fit-Fat Struggle in U.S., Canada, Britain', [online], available: [accessed 24/11/2014].
- McVeigh, J., Evans-Brown, M. and Bellis, M. (2012) *Human enhancement drugs and the pursuit of perfection*.
- McVeigh, J., Germain, J. and Van Hout, M. C. (2016) '2,4-Dinitrophenol, the inferno drug: a netnographic study of user experiences in the quest for leanness', *Journal of Substance Use*, 1-8.
- Medicines and Healthcare Products Regulatory Agency (2011) 'Update: People warned over adulterated herbal weight loss pill – test results reveal twice the prescribed dose of banned pharmaceutical ingredient.', 2),
- Meier, E., Gray, J (2013) 'Facebook Photo Activity Associated with Body Image Disturbance in Adolescent Girls', *CyberPsychology, Behavior and Social Networking*, 17(4).
- Mitchell, J. T., Sweitzer, M. M., Tunno, A. M., Kollins, S. H. and McClernon, F. J. (2016) "'I Use Weed for My ADHD": A Qualitative Analysis of Online Forum Discussions on Cannabis Use and ADHD', *PLoS ONE*, 11(5), 1-13.
- Mitchell, P. B. and Morris, M. J. (2007) 'Depression and anxiety with rimonabant', *The Lancet*, 370(9600), 1671-1672.
- Moore, D., Ayers, S. and Drey, N. (2016) 'A thematic analysis of stigma and disclosure for perinatal depression on an online forum', *JMIR mental health*, 3(2).

- Moz (2015) 'Search Engine Ranking Factors Survey', [online], available: <https://moz.com/search-ranking-factors/survey> [accessed 01/06/2015].
- Murnen, S. K. and Seabrook, R. (2012) 'Feminist Perspectives on Body Image and Physical Appearance A2 - Cash, Thomas' in *Encyclopedia of Body Image and Human Appearance*, Oxford: Academic Press, 438-443.
- Myers, P. N. and Biocca, F. A. (1992) 'The Elastic Body Image: The Effect of Television Advertising and Programming on Body Image Distortions in Young Women', *Journal of Communication*, 42(3), 108-133.
- Neumark-Sztainer, D., Wall, M., Story, M. and Standish, A. R. (2012) 'Dieting and unhealthy weight control behaviors during adolescence: Associations with 10-year changes in body mass index', *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*, 50(1), 80-86.
- NHS Digital (2016) 'Statistics on Obesity, Physical Activity and Diet - England, 2016', [online], available: <https://digital.nhs.uk/catalogue/PUB20562> [accessed 22/12/2017].
- NHS Digital (2017a) 'Prescriptions Dispensed in the Community, Statistics for England - 2006-2016', [online], available: <https://digital.nhs.uk/catalogue/PUB30014> [accessed 22/12/2017].
- NHS Digital (2017b) 'Statistics on Obesity, Physical Activity and Diet. England: 2017', [online], available: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/613532/obes-phys-acti-diet-eng-2017-rep.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/613532/obes-phys-acti-diet-eng-2017-rep.pdf) [accessed 07/04/2018].
- NHS UK (2016) 'Obesity', [online], available: <https://www.nhs.uk/conditions/obesity/treatment/> [accessed 22/12/2017].
- Nicholls, S. B. and Rice, R. E. (2017) 'A Dual-Identity Model of Responses to Deviance in Online Groups: Integrating Social Identity Theory and Expectancy Violations Theory', *Communication Theory*, 27(3), 243-268.
- Nisoli, E. and Carruba, M. O. (2003) 'A Benefit-Risk Assessment of Sibutramine in the Management of Obesity', *DRUG SAFETY*, 26(14), 1027-1048.
- Norman, J., Grace, S. and Lloyd, C. (2014) 'Legal high groups on the internet - The creation of new organized deviant groups?', *Drugs: Education, Prevention & Policy*, 21(1), 14-23.
- O'Dea, J. and Cinelli, R. L. (2006) 'Use of drugs to change appearance in girls and female adolescents' in Hall, M., Grogan, S. and Gough, B., eds., *Chemically modified bodies*, London: Springer Nature.

- Office for National Statistics (2016) 'Internet access – households and individuals: 2016', [online], available:  
<https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2016> [accessed 20/01/2017].
- Office for National Statistics (2017) 'Number of deaths where dinitrophenol (DNP) was mentioned on the death certificate, England and Wales, 2007 to 2016 (User requested data)', [online], available:  
<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/007648numberofdeathswheredinitrophenoldnpwasmentionedonthedeathcertificateenglandandwales2007to2016> [accessed 24/12/2017].
- One Family (2010) 'Cost of dieting', [online], available: <https://www.onefamily.com/our-story/media-centre/2010/cost-of-dieting/> [accessed 22/12/2017].
- Opdenakker, R. (2006) 'Advantages and Disadvantages of Four Interview Techniques in Qualitative Research', *Qualitative Social Research*, 7(4).
- Orbach, S. (1986) *Fat is a feminist issue: The self help guide for compulsive eaters*, London: Arrow Books Limited.
- Orbach, S. (2009) *Bodies*, London: Profile Books LTD.
- Orizio, G., Rubinelli, S., Schulz, P. J., Domenighini, S., Bressanelli, M., Caimi, L. and Gelatti, U. (2010) "'Save 30% if you buy today". Online pharmacies and the enhancement of peripheral thinking in consumers', *PHARMACOEPIDEMOLOGY AND DRUG SAFETY*, 19(9), 970-976.
- Padwal, R. S. and Majumdar, S. R. (2007) 'Drug treatments for obesity: orlistat, sibutramine, and rimonabant', *The Lancet*, 369(9555), 71-77.
- Pendry, L. F. and Salvatore, J. (2015) 'Individual and social benefits of online discussion forums', *Computers in Human Behavior*, 50, 211-220.
- Petróczi, A., Dodge, T., Backhouse, S. H. and Adesanwo, C. (2014) 'Review of the literature on negative health risks based interventions to guide anabolic steroid misuse prevention', *Performance Enhancement & Health*, 3(1), 31-44.
- Petróczi, A., Ocampo, J. A. V., Shah, I., James, R. A., Naughton, D. P., Jenkinson, C., New, R. and Taylor, G. (2015) 'Russian roulette with unlicensed fat-burner drug 2,4-dinitrophenol (DNP): Evidence from a multidisciplinary study of the internet, bodybuilding supplements and DNP users', *Substance Abuse: Treatment, Prevention, and Policy*, 10(1).
- Petroczi, A., Ocampo, J. A. V., Shah, I., Jenkinson, C., New, R., James, R. A., Taylor, G. and Naughton, D. P. (2015) 'Russian roulette with unlicensed fat-burner drug 2,4-dinitrophenol (DNP): evidence from a multidisciplinary study of the internet,

bodybuilding supplements and DNP users.(Research)', *Substance Abuse Treatment, Prevention, and Policy*, 10, 39.

Phillips, L. and Singer, M. A. (2013) 'Peripheral neuropathy due to dinitrophenol used for weight loss: something old, something new', *Neurology*, 80(8), 773-774.

Politi, L., Vignali, C. and Polettini, A. (2007) 'LC-MS-MS Analysis of 2,4-Dinitrophenol and Its Phase I and II Metabolites in a Case of Fatal Poisoning', *Journal of Analytical Toxicology*, 31(1), 55-61.

Pope, H. G., Kanayama, G., Ionescu-Pioggia, M. and Hudson, J. I. (2004) 'Anabolic steroid users' attitudes towards physicians', *Addiction*, 99(9), 1189-1194.

Roberts, L. (2015) 'Ethical Issues in Conducting Qualitative Research in Online Communities', *Qualitative Research in Psychology*.

Rocha, T., Amaral, J. S. and Oliveira, M. B. P. P. (2016) 'Adulteration of Dietary Supplements by the Illegal Addition of Synthetic Drugs: A Review', *Comprehensive Reviews in Food Science and Food Safety*, 15(1), 43-62.

Royal Society for Public Health (2017) '#StatusOfMind. Social media and young people's mental health and wellbeing', [online], available: <https://www.rsph.org.uk/uploads/assets/uploaded/62be270a-a55f-4719-ad668c2ec7a74c2a.pdf> [accessed 03/02/2018].

Sagoe, D., Molde, H., Andreassen, C. S., Torsheim, T. and Pallesen, S. (2014) 'The global epidemiology of anabolic-androgenic steroid use: a meta-analysis and meta-regression analysis', *Ann Epidemiol*, 24(5), 383-98.

Sam, A. H., Salem, V. and Ghatei, M. A. (2011) 'Rimonabant: From RIO to Ban', *Journal of Obesity*, 2011.

Sawer, P. and Mendick, R. (2013) 'The deadly trail of the killer slimming drug DNP', *Sunday Telegraph*,

Scheen, A. J. (2011) 'Sibutramine on Cardiovascular Outcome', *Diabetes Care*, 34(Suppl 2), S114-S119.

Sharkey, S., Jones, R., Smithson, J., Hewis, E., Emmens, T., Ford, T. and Owens, C. (2011) 'Ethical practice in internet research involving vulnerable people: lessons from a self-harm discussion forum study (SharpTalk)', *J Med Ethics*, 37(12), 752-8.

Soussan, C. and Kjellgren, A. (2014) 'Harm reduction and knowledge exchange—a qualitative analysis of drug-related Internet discussion forums', *Harm Reduction Journal*, 11(1), 25.

- Spiller, H. A., James, K. J., Scholzen, S. and Borys, D. J. (2013) 'A descriptive study of adverse events from clenbuterol misuse and abuse for weight loss and bodybuilding', *Subst Abus*, 34(3), 306-12.
- Statista (2014) 'Market share held by the leading search engines in the United Kingdom (UK) as of October 2014 ', [online], available: <http://www.statista.com/statistics/280269/market-share-held-by-search-engines-in-the-united-kingdom/> [accessed 26/05/2015].
- Stice, E., Schupak-Neuberg, E., Shaw, H. E. and Stein, R. I. (1994) 'Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms', *Journal of Abnormal Psychology*, 103(4), 836-840.
- Stimson, G. V. (2016) 'A tale of two epidemics: drugs harm reduction and tobacco harm reduction in the United Kingdom', *Drugs and Alcohol Today*, 16(3), 203-211.
- Stryker, J. E., Yaroch, A. L., Moser, R. P., Atienza, A. and Glanz, K. (2007) 'Prevalence of sunless tanning product use and related behaviors among adults in the United States: results from a national survey', *J Am Acad Dermatol*, 56(3), 387-90.
- Swami, V. (2015) 'Cultural Influences on Body Size Ideals', *European Psychologist*, 20(1), 44-51.
- Swinson, J. (2013) 'Body Image: evidence, policy, action: Report of a multidisciplinary academic seminar', [online], available: [accessed 21/10/2014].
- Tainter, M. L., Stockton, A. B. and Cutting, W. C. (1935) 'Dinitrophenol in the treatment of obesity: Final report', *Journal of the American Medical Association*, 105(5), 332-337.
- Tajfel, H. and Turner, J. C. (1979) 'An integrative theory of intergroup conflict', *The Social Psychology of Intergroup Relations*, 74, 33-47.
- Thanacoody, R. (2016) 'Serotonin syndrome', *Medicine*, 44(2), 95-96.
- The British Psychological Society (2013) *Ethics Guidelines for Internet-mediated research*, Leicester: The British Psychological Society.
- Thomas, D. R. (2017) 'Feedback from research participants: are member checks useful in qualitative research?', *Qualitative Research in Psychology*, 14(1), 23-41.
- Tiggemann, M. and Slater, A. (2013) 'NetGirls: The Internet, Facebook, and body image concern in adolescent girls', *International Journal of Eating Disorders*, 46(6), 630-633.
- Tiggemann, M. and Zaccardo, M. (2015) '"Exercise to be fit, not skinny": The effect of fitspiration imagery on women's body image', *Body Image*, 15, 61-67.

- Tighe, B., Dunn, M., McKay, F. H. and Piatkowski, T. (2017) 'Information sought, information shared: exploring performance and image enhancing drug user-facilitated harm reduction information in online forums', *Harm Reduction Journal*, 14(1), 48.
- Townsend, C., Takishima-Lacasa, J. Y., Latner, J. D., Grandinetti, A. and Kaholokula, J. K. a. (2014) 'Ethnic and gender differences in ideal body size and related attitudes among Asians, Native Hawaiians, and Whites', *Hawai'i Journal of Medicine & Public Health*, 73(8), 236.
- Trevisan, F. and Reilly, P. (2014) 'Ethical dilemmas in researching sensitive issues online: lessons from the study of British disability dissent networks', *Information, Communication & Society*, 17(9), 1131-1146.
- van de Ven, K. (2016) 'Blurred lines': Anti-doping, national policies, and the performance and image enhancing drug (PIED) market in Belgium and The Netherlands', *Performance Enhancement & Health*, 4(3), 94-102.
- Van Hout, M. C. (2014a) 'An Internet study of user's experiences of the synthetic cathinone 4-methylethcathinone (4-MEC)', *JOURNAL OF PSYCHOACTIVE DRUGS*, 46(4), 273-286.
- Van Hout, M. C. (2014b) 'SMART: An Internet study of users experiences of synthetic tanning', *Performance Enhancement & Health*, 3(1), 3-14.
- Van Hout, M. C. and Brennan, R. (2014) 'An in-depth case examination of an exotic dancer's experience of melanotan', *Int J Drug Policy*, 25(3), 444-50.
- Van Hout, M. C. and Kean, J. (2015) 'An exploratory study of image and performance enhancement drug use in a male British South Asian community', *INTERNATIONAL JOURNAL OF DRUG POLICY*, 26(9), 860-867.
- Van Schipstal, I., Mishra, S., Berning, M. and Murray, H. (2016) 'Harm Reduction From Below: On Sharing and Caring in Drug Use', *Contemporary Drug Problems*, 43(3), 199-215.
- Ward, B., Ward, M. and Paskhover, B. (2017) 'Google Trends as a Resource for Informing Plastic Surgery Marketing Decisions', *Aesthetic Plastic Surgery*.
- Wathion, N. (2009) *PUBLIC STATEMENT ON Acomplia (rimonabant). WITHDRAWAL OF THE MARKETING AUTHORISATION IN THE EUROPEAN UNION*,
- Wehner, M. R., Chren, M., Nameth, D. and et al. (2014) 'International prevalence of indoor tanning: A systematic review and meta-analysis', *JAMA Dermatology*, 150(4), 390-400.
- Williams, G. (2010) 'Withdrawal of sibutramine in Europe', *BMJ*, 340.
- Winstock, A. (2015) 'The Global Drug Survey 2014 findings', [online], available: <https://www.globaldrugsurvey.com/past-findings/the-global-drug-survey-2014-findings/> [accessed 10/03/2018].



- Yamamiya, Y., Cash, T. F., Melnyk, S. E., Posavac, H. D. and Posavac, S. S. (2005) 'Women's exposure to thin-and-beautiful media images: body image effects of media-ideal internalization and impact-reduction interventions', *Body Image*, 2(1), 74-80.
- Yen, M. and Ewald, M. B. (2012) 'Toxicity of weight loss agents', *J Med Toxicol*, 8(2), 145-52.
- Zahnow, R., McVeigh, J., Bates, G., Hope, V., Kean, J., Campbell, J. and Smith, J. (2018) 'Identifying a typology of men who use Anabolic Androgenic Steroids (AAS) ', *INTERNATIONAL JOURNAL OF DRUG POLICY*.
- Zahnow, R., McVeigh, J., Ferris, J. and Winstock, A. (2017) 'Adverse Effects, Health Service Engagement, and Service Satisfaction Among Anabolic Androgenic Steroid Users', *Contemporary Drug Problems*, 44(1), 69-83.

## Appendix A – Global Drug Survey syntax

```
IF (perfephedrineever = 2) perfWeightLossEVER = 2 .
IF (perfdnpever = 2) perfWeightLossEVER = 2 .
IF (perfsibutramineever = 2) perfWeightLossEVER = 2 .
IF (perfclenever = 2) perfWeightLossEVER = 2 .
IF (perfrimonabantever = 2) perfWeightLossEVER = 2 .
IF (perft3t4ever = 2) perfWeightLossEVER = 2 .
EXECUTE .
```

```
RECODE perfWeightLossEVER (missing=0).
```

```
IF (perfephedrine12m = 2) perfWeightLoss12m = 2 .
IF (perfdnp12m = 2) perfWeightLoss12m = 2 .
IF (perfsibutramine12m = 2) perfWeightLoss12m = 2 .
IF (perfclen12m = 2) perfWeightLoss12m = 2 .
IF (perfrimonabant12m = 2) perfWeightLoss12m = 2 .
IF (perft3t412m = 2) perfWeightLoss12m = 2 .
EXECUTE.
```

```
RECODE perfWeightLoss12m (missing=0).
```

```
RECODE
```

```
  age
```

```
  (0 thru 17.9999999=1) (18 thru 24.99999=2) (25 thru 34.99999=3) (35 thru 44.99999=4)
  (45 thru 54.99999=5) (55 thru 64.99999=6) (65 thru highest=7)
```

```
  INTO ageGroupnew.
```

```
EXECUTE .
```

```
FORMATS ageGroupnew(F2).
```

```
MISSING VALUES ageGroupnew ("0").
```

```
VALUE LABELS ageGroupnew
```

```
  1 " 0 - 17"
```

```
  2 "18 - 24"
```

```
  3 "25 - 34"
```

```
  4 "35 - 44"
```

```
  5 "45 - 54"
```

```
  6 "55 - 64"
```

```
  7 "65 plus".
```

```
RECODE income (Lowest thru 19999=1) (20000 thru 39999=2) (40000 thru 59999=3)
(60000 thru 99999=4)
```

```
  (100000 thru Highest=5) INTO Incomenew.
```

```
EXECUTE.
```

```
RECODE
```

```
ncountry
```

('Afghanistan'=2) ('Albania'=3) ('Algeria'=1) ('Andorra'=3) ('Angola'=1) ('Antigua and Barbuda'=4) ('Argentina'=6) ('Aruba'=6) ('Australia'=5) ('Austria'=3) ('Azerbaijan'=2) ('Bahamas'=4) ('Belarus'=3) ('Belgium'=3) ('Bermuda'=4) ('Bolivia'=6) ('Bosnia and Herzegovina'=3) ('Brazil'=6) ('Brunei Darussalam'=2) ('Bulgaria'=3) ('Cambodia'=2) ('Cameroon'=1) ('Canada'=4) ('Cape Verde'=1) ('Cayman Islands'=4) ('Chile'=6) ('China'=2) ('Colombia'=6) ('Congo, The Democratic Republic of The'=1) ('Costa Rica'=4) ('Croatia'=3) ('Cyprus'=3) ('Czech Republic'=3) ('Denmark'=3) ('Dominican Republic'=4) ('Ecuador'=6) ('Egypt'=1) ('Eritrea'=1) ('Estonia'=3) ('Ethiopia'=1) ('Falkland Islands (Malvinas)'=6) ('Faroe Islands'=3) ('Fiji'=5) ('Finland'=3) ('France'=3) ('French Guiana'=6) ('French Polynesia'=5) ('Gabon'=1) ('Georgia'=3) ('Germany'=3) ('Ghana'=1) ('Gibraltar'=3) ('Greece'=3) ('Greenland'=4) ('Guadeloupe'=4) ('Guam'=5) ('Guatemala'=4) ('Guernsey (Bailiwick of Guernsey)'=3) ('Haiti'=4) ('Holy See (Vatican City State)'=3) ('Honduras'=4) ('Hong Kong'=2) ('Hungary'=3) ('Iceland'=3) ('India'=2) ('Indonesia'=2) ('Iran, Islamic Republic of'=2) ('Iraq'=2) ('Ireland'=3) ('Israel'=2) ('Italy'=3) ('Jamaica'=4) ('Japan'=2) ('Jersey (Bailiwick of Jersey)'=3) ('Jordan'=2) ('Kenya'=1) ('Korea, Democratic People's Republic of'=2) ('Korea, Republic of'=2) ('Kuwait'=2) ('Kyrgyzstan'=2) ('Lao People's Democratic Republic'=2) ('Latvia'=3) ('Lebanon'=2) ('Liberia'=1) ('Liechtenstein'=3) ('Lithuania'=3) ('Luxembourg'=3) ('Macao'=2) ('Macedonia, The Former Yugoslav Republic of'=3) ('Madagascar'=1) ('Malawi'=1) ('Malaysia'=2) ('Maldives'=2) ('Mali'=1) ('Malta'=3) ('Martinique'=4) ('Mauritius'=1) ('Mayotte'=1) ('Mexico'=4) ('Micronesia, Federated States of'=5) ('Moldova, Republic of'=3) ('Monaco'=3) ('Mongolia'=2) ('Montserrat'=4) ('Morocco'=1) ('Mozambique'=1) ('Myanmar'=2) ('Namibia'=1) ('Nepal'=2) ('Netherlands'=3) ('New Caledonia'=5) ('New Zealand'=5) ('Nicaragua'=4) ('Nigeria'=1) ('Northern Ireland'=3) ('Norway'=3) ('Pakistan'=2) ('Palestinian Territory, Occupied'=2) ('Panama'=4) ('Papua New Guinea'=5) ('Paraguay'=6) ('Peru'=6) ('Philippines'=2) ('Pitcairn'=5) ('Poland'=3) ('Portugal'=3) ('Puerto Rico'=4) ('Qatar'=2) ('Reunion'=1) ('Romania'=3) ('Russian Federation'=2) ('Rwanda'=1) ('Saint Lucia'=4) ('Sao Tome and Principe'=1) ('Saudi Arabia'=2) ('Scotland'=3) ('Senegal'=1) ('Serbia and Montenegro'=3) ('Seychelles'=1) ('Sierra Leone'=1) ('Singapore'=2) ('Slovakia'=3) ('Slovenia'=3) ('South Africa'=1) ('Spain'=3) ('Sri Lanka'=2) ('Sudan'=1) ('Suriname'=6) ('Swaziland'=1) ('Sweden'=3) ('Switzerland'=3) ('Taiwan, Province of China'=2) ('Taiwan, Republic of China'=2) ('Tanzania, United Republic of'=1) ('Thailand'=2) ('Timor-leste'=2) ('Togo'=1) ('Tokelau'=5) ('Trinidad and Tobago'=4) ('Tunisia'=1) ('Turkey'=2) ('Uganda'=1) ('Ukraine'=3) ('United Arab Emirates'=2) ('United Kingdom'=3) ('United States'=4) ('Uruguay'=6) ('Uzbekistan'=2) ('Vanuatu'=5) ('Venezuela'=6) ('Viet Nam'=2) ('Wales'=3) ('Zambia'=1) ('Zimbabwe'=1)

INTO Continent.

EXECUTE.

STRING newContinent (A20).

RECODE

Continent

(1='Africa') (2='Asia') (3='Europe') (4='North America') (5='Oceania') (6='South America')

INTO newContinent.

VARIABLE LABELS newContinent 'new cont'.

EXECUTE.

## Appendix B – Forum selection

### **Forum 1**

Forum 1 was originally found following a search on Google for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 1 appeared in searches across all three search engines.

Forum 1 is a body building forum which does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

### **Forum 2**

Forum 2 was originally found following a search on Google for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 2 appeared in searches across all three search engines.

Forum 2 is a body building forum which does have a female sub-forum but no way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

### **Forum 3**

Forum 3 was originally found following a search on Google for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 3 only appeared in Google searches.

Forum 3 is a body building forum which does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

### **Forum 4**

Forum 4 was originally found following a search on Google for DNP forum. It did not appear following searches for other search terms. Forum 4 only appeared in Google searches.

Forum 4 is a body building forum which does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

### **Forum 5**

Forum 5 was originally found following a search on Google for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 5 appeared in searches across all three search engines.

Forum 5 is a body building forum which does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

### **Forum 6**

Forum 6 was originally found following a search on Google for DNP forum. It also appeared in searches for Dinitrophenol forum, Sibutramine forum, Reductil forum, Sibutrex forum, Rimonabant forum. Forum 6 appeared in searches across all three search engines

Forum 6 is a body building forum which does have a female sub-forum and a way of identifying female forum posters. It has a higher than average female user population.

Forum 6 has a high global ranking (636) and a high UK ranking (306) with 6.4% of its users being from the UK.

Forum 6 has an advanced search function where all open forums can be searched for keyword(s). The forum can be searched over any time period and results can be shown as either threads or posts.

*Decision: Included*

#### **Forum 7**

Forum 7 was originally found following a search on Google for Dinitrophenol forum. It also appeared in searches for Sibutramine forum and Rimonabant forum. Forum 7 appeared in searches across all three search engines.

Forum 7 is a drugs forum which does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

#### **Forum 8**

Forum 8 was originally found following a search on Google for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 8 only appeared in Google searches.

Forum 8 is a body building forum which does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

#### **Forum 9**

Forum 9 was originally found following a search on Google for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 9 appeared in Bing search but not Yahoo.

Forum 9 is a drugs forum which has a female sub-forum but no way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

#### **Forum 10**

Forum 10 was originally found following a search on Google for DNP forum. It also appeared in searches for Sibutramine forum, Rimonabant forum and "weight loss drugs" forum. Forum 10 appeared in searches across all three search engines.

Forum 10 is a drugs forum which does not have a female sub-forum but female forum posters can be identified. It has a lower than average female user population.

*Decision: Excluded*

#### **Forum 11**

Forum 11 was originally found following a search on Google for DNP forum. It also appeared in searches for Dinitrophenol forum. Forum 11 appeared in searches across all three search engines.

Forum 11 is a body building forum which has a female sub-forum and a way of identifying female forum posters. It has a lower than average female user population

*Decision: Excluded*

### **Forum 12**

Forum 12 was originally found following a search on Google for DNP forum. It also appeared in searches for Dinitrophenol forum and Sibutramine forum. Forum 12 appeared in searches across all three search engines.

Forum 12 is a body building forum which has a female sub-forum and does not have a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

### **Forum 13**

Forum 13 was originally found following a search on Google for DNP forum. It also appeared in searches for Dinitrophenol forum and Sibutramine forum. Forum 13 appeared in searches across all three search engines

Forum 13 is a drugs forum which does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population

*Decision: Excluded*

### **Forum 14**

Forum 14 was originally found following a search on Google for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 14 only appeared in Google searches.

Forum 14 is a weight loss forum which does have a female sub-forum but no way of identifying female forum posters. There was not enough data to identify gender breakdown of website visitors.

*Decision: Excluded*

### **Forum 15**

Forum 15 was originally found following a search on Google for DNP forum. It also appeared in searches for Dinitrophenol forum, Sibutramine forum, Slimex forum, Rimonabant forum and Acomplia forum. Forum 15 appeared in searches across all three search engines.

Forum 15 is a body building forum which does have a female sub-forum but no way of identifying female forum posters. It has a lower than average female user population

*Decision: Excluded*

### **Forum 16**

Forum 16 was originally found following a search on Bing for Dinitrophenol forum. It did not appear following searches for other search terms. Forum 16 appeared in Bing and Yahoo but not Google search engine.

Forum 16 is a body building forum which does not have a female sub-forum and no way of identifying female forum posters. There was not enough data to identify gender breakdown of website visitors.

*Decision: Excluded*

### **Forum 17**

Forum 17 was originally found following a search on Google for Dinitrophenol forum. It also appeared in searches for Sibutramine forum, Slimex forum, and "weight loss drugs" forum. Forum 17 appeared in all three search engines.

Forum 17 is a bodybuilding forum which does have a female sub-forum but no way of identifying female forum posters. It has a lower than average female user population

*Decision: Excluded*

#### **Forum 18**

Forum 18 was originally found following a search on Google for Rimonabant forum. It did not appear following searches for other search terms. Forum 18 only appeared in Google searches.

Forum 18 is a bodybuilding forum which does have a female sub-forum but no way of identifying female forum posters. It has a lower than average female user population

*Decision: Excluded*

#### **Forum 19**

Forum 19 was originally found following a search on Bing for Rimonabant forum. It did not appear following searches for other search terms. Forum 19 only appeared in Bing and Yahoo searches.

Forum 19 is a body building forum which has a female sub-forum but no way of identifying female forum posters. It has a lower than average female user population

*Decision: Excluded*

#### **Forum 20**

Forum 20 was originally found following a search on a Google for Reductil forum. It did not appear following searches for other search terms. Forum 20 appeared in all three search engines. Forum 20 is a weight loss forum which does not have a female sub-forum (however the forum looks to be aimed at women) and no way of identifying female forum posters. It has a higher than average female user population.

Forum 20 has a low global ranking (57,924) and a low UK ranking (51,527) with only 2.9% of its users being from the UK.

*Decision: Excluded*

#### **Forum 21**

Forum 21 was originally found following a search on Google for Sibutramine forum. It also appeared in searches for Rimonabant forum and “weight loss drugs” forum. Forum 21 appeared in all three search engines.

Forum 21 is a drugs forum which does not have a female sub-forum and no way of identifying female forum posters. It has a higher than average female user population.

Forum 21 has a high global ranking (1,209) and a high UK ranking (930) with 4% of users being from the UK.

Forum 21 has an advanced search function where all forums can be searched for keyword(s). Searches are shown as threads.

*Decision: Included*

#### **Forum 22**

Forum 22 was originally found following a search on Google for Sibutramine forum. It did not appear following searches for other search terms. Forum 22 only appeared in Google searches.

Forum 22 is a sex and drugs forum (classified as ‘other’ in earlier text/tables) which does not have a female sub-forum but does have a way of identifying female forum posters. It has a lower than average female user population.

*Decision: Excluded*

### **Forum 23**

Forum 23 was originally found following a search on Google for Sibutramine forum. It also appeared following searches for Rimonabant forum and Acomplia forum. It only appeared in Google and Bing searches.

Forum 23 is a womens forum (classified as 'other' in earlier text/tables). It does not have a female sub-forum however, the whole forum is aimed at women. It does have a way of identifying female forum posters. It has a higher than average female user population. It has a medium global ranking (25,971) and a high UK ranking (4,577) and 18.6% of its visitors are UK based.

Forum 23 has only a basic search function where all open forums can be searched for keyword(s). The forum can only be searched on the last year of posts. However despite this as the forum is aimed at women it will be included.

Decision: *Included*

### **Forum 24**

Forum 24 was originally found following a search on Google for Sibutramine forum. It also appeared following searches for Rimonabant forum, Acomplia forum and "weight loss pills" forum. It appeared in all three search engines.

Forum 24 is a Diabetes forum (classified as health specific other in earlier text/tables). It does not have a female sub-forum or a way of identifying female forum posters. It has a higher than average female user population.

It has a medium global ranking (33,867) and a high UK ranking (3,878) and 25.4% of its visitors are UK based.

Forum 24 has an advanced search function where all forums can be searched for keyword(s). The forum can be searched over any time period and results can be shown as either threads or posts.

Decision: *Included*

### **Forum 25**

Forum 25 was originally found following a search on Google for Sibutramine forum. It also appeared following searches for Reductil forum and "weight loss pills" forum. It appeared in all three search engines.

Forum 25 is a general health forum. It does have a female section but does not have a way of identifying female forum posters. It has a higher than average female user population.

Forum 25 has a high global rank (4,113) and a high UK rank (361) with 28.8% of its users being from the UK.

Forum 25 has a limited search function and a small number of threads which are focussed around UWL drugs

Decision: *Excluded*

### **Forum 26**

Forum 26 was originally found following a search on Google for Reductil forum. It also appeared following searches for Sibutrex forum, Rimonabant forum, Acomplia forum and "weight loss pills" forum. It appeared in all three search engines.

Forum 26 is a weight loss forum. It does not have a female section but does have a way of identifying female forum posters. It has a higher than average female user population.

Forum 26 has a mid-global rank (41,607) and a high UK rank (4,325) with 30.9% of its users being from the UK.



Users can only access the forum by creating an account and paying a subscription fee. As users are paying to access this forum there may be the assumption that their posts will be private.

Decision: *Excluded*

#### **Forum 27**

Forum 27 was originally found following a search on Google for Reductil forum. It also appeared following a search for Acomplia forum. It appeared in all three search engines. Forum 27 is an entertainment forum (classified as 'other' in earlier text/tables). It does not have a female section but does have a way of identifying female forum posters. It has a higher than average female user population.

It has a high global ranking (3,198) and a high UK ranking (137) and 58.2% of its visitors are UK based.

Forum 27 has an advanced search function where all open forums can be searched for keyword(s). The forum can be searched over any time period and results can be shown as either threads or posts.

Decision: *Included*

#### **Forum 28**

Forum 28 was originally found following a search on Google for Reductil forum. It also appeared following a search for Acomplia forum. It appeared in all three search engines. Forum 28 is a weight loss forum. It does not have a female sub-forum and profiles cannot be viewed until a user has posted 50 times. It has a higher than average female user population.

It has a low global ranking (182,006) and a high UK ranking (13,448) and 65.9% of its visitors are UK based.

Forum 28 has an advanced search function where all open forums can be searched for keyword(s). The forum can be searched over any time period and results can be shown as either threads or posts.

Decision: *Included*

#### **Forum 29**

Forum 29 was originally found following a search on Google for Reductil forum. It also appeared following a search for "weight loss pills" forum. It appeared in all three search engines.

Forum 29 is an area specific forum (classified as 'other' in earlier text/tables). This forum is aimed at residents of a city within the UK. It does not have a female sub-forum and no way of identifying female forum posters. It has a higher than average female user population.

It has a low global ranking (59,419) and a high UK ranking (2,795) with 68.9% of its visitors being UK based.

As forum 29 is only aimed at residents in one city across the UK and not UK residents in general it will not be included.

Decision: *Excluded*

#### **Forum 30**

Forum 30 was originally found following a search on Bing for Reductil forum. It did not appear in any other searches. It only appeared in Bing and Yahoo searches.

Forum 30 is a financial forum (classified as 'other' in earlier text/tables). It does not have a female sub-forum and no way of identifying female forum posters. It has a lower than average female user population.

Decision: *Excluded*

### **Forum 31**

Forum 31 was originally found following a search on Bing for "weight loss pills" forum. It did not appear in any other searches. It only appeared in Bing and Yahoo searches.

Forum 31 is a weight loss forum. It does not have a female sub-forum and no way of identifying female forum posters. It has a higher than average female user population.

It has a high global ranking (6,970) and a high UK ranking (5,094) and 4.2% of its visitors are UK based.

Forum 31 has a basis search function where all forums can be searched for keyword(s). The forum can be searched over any time period and results can be shown as either threads or posts.

Decision: *Included*

### **Forum 32**

Forum 32 was originally found following a search on Bing for "weight loss drugs" forum. It did not appear in any other searches. It only appeared in Bing and Yahoo searches.

Forum 32 is a drugs forum. It does not have a female sub-forum and no way of identifying female forum posters. It has a lower than average female user population.

Decision: *Excluded*

### **Forum 33**

Forum 33 was originally found following a search on Google for "weight loss drugs" forum. It did not appear in any other searches. It only appeared in Google and Bing searches.

Forum 33 is a general health forum. It does have a female sub-forum and a way of identifying female forum posters. It has a higher than average female user population.

It has a high global ranking (5,434) and a high UK ranking (2,580) and 4.2% of its visitors are UK based.

Forum 33 has a basic search function where all forums can be searched for keyword(s). The forum can be searched over any time period and results can be shown as either threads or posts. This forum is monitored by health care professionals who do reply to forum posts where needed. As this phase is focusing on discussion of UWL drugs by those using or thinking about using this forum will be excluded.

Decision: *Excluded*

### **Forum 34**

Forum 34 was originally found following a search on Google for "weight loss pills" forum. It did not appear in any other searches. It only appeared in Google searches.

Forum 34 is a newspaper forum (classified as 'other' in earlier text/tables). It does have a female sub-forum but no way of identifying female forum posters. It has a higher than average female user population.

It has a high global ranking (117) and a high UK ranking (14) and 19.7% of its visitors are UK based.

Forum 34 has an advanced search function where all forums can be searched for keyword(s). The forum can be searched over any time period and results can be shown as

either threads or posts. This forum has limited threads relating to the discussion of UWL and will therefore be excluded.

Decision: *Excluded*

### **Forum 35**

Forum 35 was originally found following a search on Yahoo for “weight loss pills” forum. It did not appear in any other searches. It only appeared in Yahoo searches.

Forum 35 is a weight loss forum. It does not have a female sub-forum but does have a way of identifying female forum posters. It has a higher than average female user population. Forum 35 has a high (696) global ranking and a high UK ranking (360) and 6.2% of its visitors are UK based.

Forum 35 has an advanced search function where all forums can be searched for keyword(s). The forum can be searched over any time period. Results are shown as threads.

Decision: *Included*

### **Forum 36**

Forum 36 was originally found following a search on Google for “weight loss drugs” forum. It did not appear in any other searches. It appeared in all three search engines.

Forum 36 is a parenting forum (classified as ‘other’ in earlier text/tables). It does not have a female sub-forum or a way of identifying female forum posters. The forum is however aimed at women. It has a higher than average female user population.

Forum 36 has a high (8,209) global ranking and a high UK ranking (408) with 54.7% of its visitors being from the UK.

Forum 36 has an advanced search function where all forums can be searched for keyword(s). The forum can be searched over any time period. Results are shown as threads.

Decision: *Included*

### **Forum 37**

Forum 37 was originally found following a search on Google for “weight loss drugs” forum. It did not appear in any other searches. It appeared in all three search engines.

Forum 37 is a body building forum. It does not have a female sub-forum or a way of identifying female forum posters. It has a lower than average female user population.

Decision: *Excluded*

## Appendix C– Forum moderator participant information sheet



### **LIVERPOOL JOHN MOORES UNIVERSITY PARTICIPANT INFORMATION SHEET**

**Title of Project:** An exploration of the female use of unlicensed weight loss (UWL) drugs – forum moderator interviews

**Name of Researcher and School/Faculty:** Jennifer Germain, PhD student, Centre for Public Health, Faculty of Health, Education and Community

You are being invited to take part in a research study. Before you decide whether to take part it is important that you understand why the research is being done and what it involves. Please take time to read the following information. Ask us if there is anything that is not clear or if you would like more information. Take time to decide if you want to take part or not.

#### **1. What is the purpose of the study?**

This research will form part of a PhD programme. Interviews will be used to discuss forum moderator's views and perceptions of online discussion related to unlicensed weight loss (UWL) drugs. This discussion will include the online forums stance on UWL drug discussion and what role forums could play in UWL harm minimisation.

#### **2. Do I have to take part?**

No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw will not affect your rights. Following the interview, there will be a ten day period where you are free to withdraw your interview from the study. However, after the interviews have been anonymised and written up, it may not be possible to withdraw your information from write up.

#### **3. Why have I been selected to take part?**

You have been selected to take part because you are a moderator on a forum where there is discussion around alternative weight loss strategies including UWL drugs.

#### **4. What will happen to me if I take part?**

You will be invited to take part in an interview. The interview will last no longer than 60 minutes. We will agree a mutually convenient time, date and venue for the interview. Should a face to face interview not be feasible then we will arrange to conduct the interview by telephone or other means if you would be happy with that.

Prior to the interview you will be asked to read and sign a consent form and the interview will be audio recorded.

The interview will follow a guide with a set of questions and you will be given the opportunity to discuss the issues at length and also to add any other information which you feel is important. You are free to leave the interview at any point should you no longer wish to take part.

**5. Are there any risks / benefits involved?**

There are no risks associated with either taking part or not taking part in the study.

**6. Will my taking part in the study be kept confidential?**

With your permission we will digitally record the interview, whether it is conducted face to face or by telephone. Interview recordings will only be listened to by the researcher and supervisor and will be held securely at Liverpool John Moores University. Recordings will be deleted after the interview has been written up.

Any hard copies of data will be kept in a locked filing cabinet and electronic versions will be held on a password-protected university computer which only the research team can access.

We may quote some of your words in publications and reports but to ensure that you cannot be recognised, neither your name nor any identifying features (such as the forum you moderate or your online user name) will be included.

**This study has received ethical approval from LJMU's Research Ethics Committee 16/CPH/016 on 17/06/2016**

**Contact Details of Researcher** Jennifer Germain, PhD student, Centre for Public Health, Liverpool John Moores University, Henry Cotton Building, 15-21 Webster Street, Liverpool, L32ET, 0151 231 4441.

**Contact Details of Academic Supervisor** Jim McVeigh, Director of Centre for Public Health, Centre for Public Health, Liverpool John Moores University, Henry Cotton Building, 15-21 Webster Street, Liverpool, L32ET, 0151 231 4511.

**If you any concerns regarding your involvement in this research, please discuss these with the researcher in the first instance. If you wish to make a complaint, please contact [researchethics@ljmu.ac.uk](mailto:researchethics@ljmu.ac.uk) and your communication will be re-directed to an independent person as appropriate.**

## Appendix D– Forum moderator consent form



### LIVERPOOL JOHN MOORES UNIVERSITY

**Title of project:** An exploration c  
forum moderator interviews

### CONSENT FORM

**Name of Researcher and School/Faculty:** Jennifer Germain, PhD student, Centre for Public Health, Faculty of Health, Education and Community

1. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and that this will not affect my legal rights. ☐
3. I understand that any personal information collected during the study will be anonymised and remain confidential ☐
4. I agree to take part in the above study. ☐
5. I understand that the interview will be audio / video recorded and I am happy to proceed ☐
6. I understand that parts of our conversation may be used verbatim in future publications or presentations but that such quotes will be anonymised. ☐

Name of Participant

Date

Signature

Name of Researcher

Date

Signature

Name of Person taking consent  
(if different from researcher)

Date

Signature

## Appendix E – Forum moderator recruitment messages

### Original message

Dear \*\*\*\* (forum user name)

My name is Jenny Germain and I am a PhD student at the Public Health Institute, Liverpool John Moores University (<http://www.cph.org.uk/>). I am contacting you as you are a moderator on a xxxxx related forum. I am currently carrying out health related research looking at the use of unlicensed weight loss drugs in females and discussion relating to weight loss has been identified on your forum.

I am looking to carry out interviews with forum moderators and this is why I am contacting you. I am interested in gaining more knowledge about the forum that you moderate including; the types of information given by forum members on your forum about weight loss strategies, how this type of discussion is received by other forum users and rules of posting and information about unlicensed weight loss drugs. I am interested in your views and perceptions of these issues and also the forums stance on what discussion should and shouldn't be allowed. Finally, I am also interested in the role of online forums in harm reduction for those people who are using UWL drugs.

I would like to ask you if you would be interested in taking part in an interview to discuss some of these issues. We can conduct the interview in whichever way is most convenient to you. Interviews can be via email or through chat platforms such as Instant Messenger. We can also do interviews face to face or on the telephone if you're based in the UK and would like to do so. The interview will last no longer than an hour.

If you think you might be interested in taking part or would like some further information then please email me at [weightlossdrugs@ljmu.ac.uk](mailto:weightlossdrugs@ljmu.ac.uk) . Similarly if you would not like to take part and wish to not be contacted again, please email me and I will remove your details from my contacts list.

This study was granted ethical approval by Liverpool John Moores University and no user names, forum names or identifiers will be used in any written works resulting from this research in order to protect anonymity of both the forum and forum members.

Kind regards,

Jenny

### Reminder message

Dear \*\*\*\* (forum user name),

I'm just sending this message as a reminder to check to see if you would be interested taking part in my research looking at the use of unlicensed weight loss drugs. Details of the study are below:

My name is Jenny Germain and I am a PhD student at The Centre for Public Health, Liverpool John Moores University (<http://www.cph.org.uk/>). I am currently carrying out research looking at the use of unlicensed weight loss drugs in females. The first stage of my research involved an analysis of online forums, one of which included your forum. Your forum was chosen as it contained discussion relating to weight loss strategies including weight loss supplements or drugs.

For the second phase of the study, I am carrying out interviews with forum moderators and this is why I am contacting you. I am interested in gaining more knowledge about the

forum that you moderate including; the types of information given by forum members on your forum about weight loss strategies, how this type of discussion is received by other forum users and rules of posting and information about unlicensed weight loss drugs. I am interested in your views and perceptions of these issues and also the forums stance on what discussion should and shouldn't be allowed. Finally, I am also interested in the role of online forums in harm reduction for those people who are using UWL drugs.

I would like to ask you if you would be interested in taking part in an interview to discuss some of these issues, the interview can be conducted at a time and place convenient to you, can be face-to-face if you are based in the UK, on the telephone or through other platforms such as Skype and will last no longer than an hour.

If you think you might be interested in taking part or would like some further information then please email me at [weightlossdrugs@ljmu.ac.uk](mailto:weightlossdrugs@ljmu.ac.uk) . Similarly if you would not like to take part and wish to not be contacted again, please email me and I will remove your details from my contacts list.

This study was granted ethical approval by Liverpool John Moores University and no user names, forum names or identifiers will be used in any written works resulting from this research in order to protect anonymity of both the forum and forum members.

Kind regards,

Jenny



## Appendix F – Forum moderator interview schedule

- 1) How long have you been a moderator on XXXX forum?
- 2) Was the forum already established prior to you becoming a moderator?
- 3) Do you moderate any other forums?
- 4) How did you come to be a moderator at XXXX forum?
- 5) What is the purpose of the forum?
- 6) What types of discussion takes place on your forum?
- 7) Can you tell me about your awareness of the level of discussion relating to unlicensed weight loss (UWL) drugs on the forum you moderate?
  - Prompt: By UWL drugs we are mainly talking about DNP, sibutramine and rimonabant but there could also be discussion on other drugs/supplements
- 8) How is UWL drug discussion viewed on your forum?
  - Prompt: By other forum users
  - By forum moderators
  - What is the forums stance on UWL drugs discussion, e.g. allowed, close thread, discourage
- 9) What type of information is given by forum members on your forum around UWL drugs?
- 10) Is there discussion on your forum concerning the buying and selling of UWL drugs?
  - Prompt: What is the forums stance on this discussion
  - What is your level of knowledge on the online drugs market of UWL drugs
- 11) How do you manage discussion around different weight loss strategies?
  - Starting with excessive caffeine consumption to herbal weight loss products to drugs such as DNP.
- 12) In which situations would you facilitate discussion around UWL drugs and how would you do this?
  - Prompt: Can you give specific examples?
- 13) In which situations would you interject discussion around UWL drugs and how would you do this?
  - Prompt: Can you give specific examples?
- 14) How early would you interject in different situations?
  - Prompt: Ranging from discussion around excessive caffeine consumption, herbal weight loss products to UWL drugs.
- 15) Are there any information or skills which are needed to manage those people who are drawn towards products like UWL drugs?
- 16) Do you think online forums could have a role in online harm reduction?
  - Prompt: What role could the forum take
  - By forum members
  - By forum moderators (peer educators)

## Appendix G – UWL drug user recruitment messages



### **Be involved in a research study looking at the use of weight loss drugs!**

If you are female, have ever taken an unlicensed weight loss drug (Dinitrophenol, Sibutramine or Rimonabant) and live in the United Kingdom then we would like to hear your experiences. For the opportunity to take part in an anonymous interview please contact me at [weightlossdrugs@ljmu.ac.uk](mailto:weightlossdrugs@ljmu.ac.uk).

### **Details of study**

**Research title:** An exploration of the female use of unlicensed weight loss drugs

**Name of research and school/faculty:** Jennifer Germain, PhD student, Centre for Public Health, Faculty of Health, Education and Community

#### **7. What is the purpose of the study?**

This research will form part of a PhD programme. Interviews will be used to discuss your experience of using weight loss drugs, your motivations for using weight loss drugs and the role of online forums in providing health information.

#### **8. Do I have to take part?**

No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw will not affect your rights. Following the interview, there will be a ten day period where you are free to withdraw your interview from the study. However, after the interviews have been anonymised and written up, it may not be possible to withdraw your information from write up.

#### **9. Why have I been selected to take part?**

You have been selected to take part because you have used or are currently using an unlicensed weight loss drug. The three drugs included in this research are 2,4 Dinitrophenol (also known as DNP), Sibutramine (also known as Reductil, Meridia, Sibutrex and Slimex) and Rimonabant (also known as Acomplia). Sibutramine and Rimonabant have previously been available on prescription, we are only looking to speak to people who have used them since the drugs lost their license (Rimonabant in 2008, Sibutramine in 2010).

#### **10. What will happen to me if I take part?**

You will be invited to take part in an interview. The interview will last no longer than 60 minutes. We will agree a mutually convenient time, date and venue for the interview. Should a face to face

interview not be feasible then we will arrange to conduct the interview by telephone or other means such as instant messenger if you would be happy with that. Prior to the interview you will be asked to read and sign a consent form and the interview will be audio recorded. The interview will follow a guide with a set of questions and you will be given the opportunity to discuss the issues at length and also to add any other information which you feel is important. You are free to leave the interview at any point should you no longer wish to take part.

#### **11. Are there any risks / benefits involved?**

It is possible that discussing your motivations and use of weight loss drugs could result in negative feelings. If you do become distressed during the interview and would like to stop the interview then please make the interviewer aware of this. If you would like to seek support then it is recommended that you contact **Talk to Frank**. To contact **Talk to Frank** you can visit their website: <http://www.talktofrank.com/get-help>, contact them by telephone: 0300 123 6600 or send a text message to 82111.

#### **12. Will my taking part in the study be kept confidential?**

With your permission we will digitally record the interview, whether it is conducted face to face or by telephone. Interview recordings will only be listened to by the researcher and supervisor and will be held securely at Liverpool John Moores University. Recordings will be deleted after the interview has been written up. If the interview is conducted by instant messenger then a copy of the interview will be saved.

Any hard copies of data will be kept in a locked filing cabinet and electronic versions will be held on a password-protected university computer which only the research team can access.

We may quote some of your words in publications and reports but to ensure that you cannot be recognised, neither your name nor any identifying features (such as forums or online communities that you use, your name or any online user names) will be included.

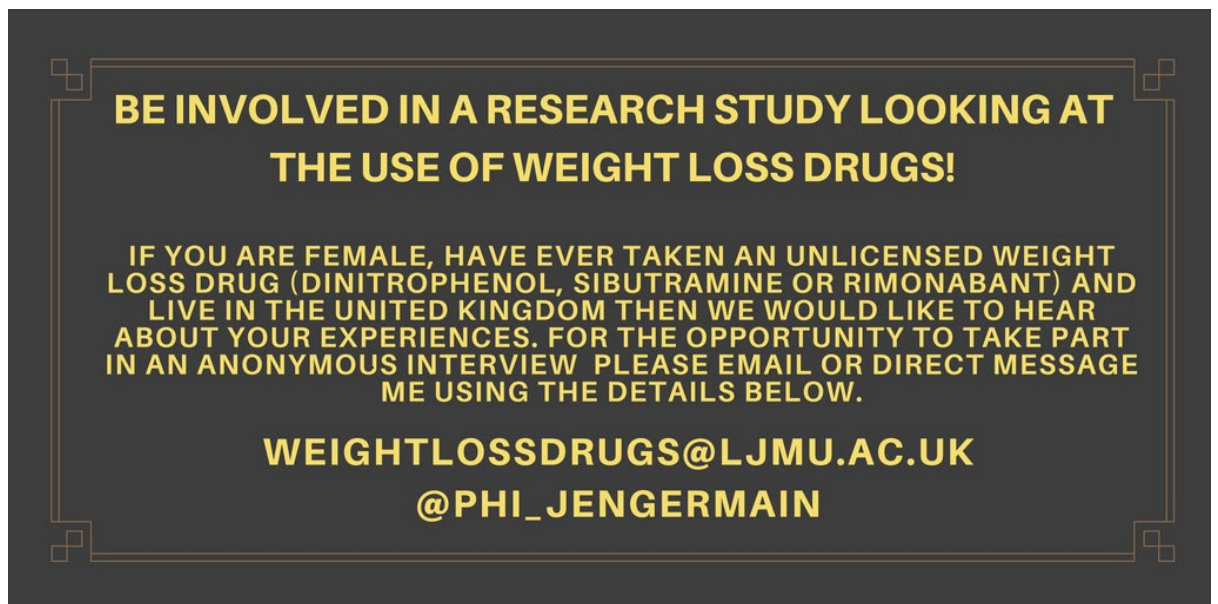
**This study has received ethical approval from LJMU's Research Ethics Committee Reference number 16/CPH/027**

**Contact Details of Researcher** Jennifer Germain, PhD student, Centre for Public Health, Liverpool John Moores University, Henry Cotton Building, 15-21 Webster Street, Liverpool, L32ET, 0151 231 4441.

**Contact Details of Academic Supervisor** Jim McVeigh, Director of Centre for Public Health, Centre for Public Health, Liverpool John Moores University, Henry Cotton Building, 15-21 Webster Street, Liverpool, L32ET, 0151 231 4511.

**If you any concerns regarding your involvement in this research, please discuss these with the researcher in the first instance. If you wish to make a complaint, please contact [researchethics@ljmu.ac.uk](mailto:researchethics@ljmu.ac.uk) and your communication will be re-directed to an independent person as appropriate.**

Appendix H – UWL drug user recruitment messages via social media



## Appendix I– UWL drug user participant information sheet



### **LIVERPOOL JOHN MOORES UNIVERSITY**

### **PARTICIPANT INFORMATION SHEET**

**Title of Project:** An exploration of the female use of unlicensed weight loss (UWL) drugs – weight loss drug user interviews

**Name of Researcher and School/Faculty:** Jennifer Germain, PhD student, Centre for Public Health, Faculty of Health, Education and Community

You are being invited to take part in a research study. Before you decide whether to take part it is important that you understand why the research is being done and what it involves. Please take time to read the following information. Ask us if there is anything that is not clear or if you would like more information. Take time to decide if you want to take part or not.

#### **13. What is the purpose of the study?**

This research will form part of a PhD programme. Interviews will be used to discuss your experience of using weight loss drugs, your motivations for using weight loss drugs and the role of online forums in providing health information.

#### **14. Do I have to take part?**

No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet and asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw will not affect your rights. Following the interview, there will be a ten day period where you are free to withdraw your interview from the study. However, after the interviews have been anonymised and written up, it may not be possible to withdraw your information from write up.

#### **15. Why have I been selected to take part?**

You have been selected to take part because you have used or are currently using an unlicensed weight loss drug. The three drugs included in this research are 2,4 Dinitrophenol (also known as DNP), Sibutramine (also known as Reductil, Meridia, Sibutrex and Slimex) and Rimonabant (also known as Acomplia). Sibutramine and Rimonabant have previously been available on prescription, we are only looking to speak to people who have used them since the drugs lost their license (Rimonabant in 2008, Sibutramine in 2010).

#### **16. What will happen to me if I take part?**

You will be invited to take part in an interview. The interview will last no longer than 60 minutes. We will agree a mutually convenient time, date and venue for the interview. Should a face to face interview not be feasible then we will arrange to conduct the interview by telephone or other means such as instant messenger if you would be happy with that.

Prior to the interview you will be asked to read and sign a consent form and the interview will be audio recorded.

The interview will follow a guide with a set of questions and you will be given the opportunity to discuss the issues at length and also to add any other information which you feel is important. You are free to leave the interview at any point should you no longer wish to take part.

**17. Are there any risks / benefits involved?**

It is possible that discussing your motivations and use of weight loss drugs could result in negative feelings. If you do become distressed during the interview and would like to stop the interview then please make the interviewer aware of this. If you would like to seek support then it is recommended that you contact **Talk to Frank**. To contact **Talk to Frank** you can visit their website: <http://www.talktofrank.com/get-help>, contact them by telephone: 0300 123 6600 or send a text message to 82111.

**18. Will my taking part in the study be kept confidential?**

With your permission we will digitally record the interview, whether it is conducted face to face or by telephone. Interview recordings will only be listened to by the researcher and supervisor and will be held securely at Liverpool John Moores University. Recordings will be deleted after the interview has been written up. If the interview is conducted by instant messenger then a copy of the interview will be saved.

Any hard copies of data will be kept in a locked filing cabinet and electronic versions will be held on a password-protected university computer which only the research team can access.

We may quote some of your words in publications and reports but to ensure that you cannot be recognised, neither your name nor any identifying features (such as forums or online communities that you use, your name or any online user names) will be included.

**This study has received ethical approval from LJMU's Research Ethics Committee Reference number 16/CPH/027**

**Contact Details of Researcher** Jennifer Germain, PhD student, Centre for Public Health, Liverpool John Moores University, Henry Cotton Building, 15-21 Webster Street, Liverpool, L32ET, 0151 231 4441.

**Contact Details of Academic Supervisor** Jim McVeigh, Director of Centre for Public Health, Centre for Public Health, Liverpool John Moores University, Henry Cotton Building, 15-21 Webster Street, Liverpool, L32ET, 0151 231 4511.

**If you any concerns regarding your involvement in this research, please discuss these with the researcher in the first instance. If you wish to make a complaint, please contact [researchethics@ljmu.ac.uk](mailto:researchethics@ljmu.ac.uk) and your communication will be re-directed to an independent person as appropriate.**

## Appendix J– UWL drug user consent form



### LIVERPOOL JOHN MOORES UNIVERSITY

#### CONSENT FORM

**Title of project:** An exploration of the female use of unlicensed weight loss (UWL) drugs – weight loss drug users

**Name of Researcher and School/Faculty:** Jennifer Germain, PhD student, Centre for Public Health, Faculty of Health, Education and Community

7. I confirm that I have read and understand the information provided for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily

☐

8. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and that this will not affect my legal rights.

☐

9. I understand that any personal information collected during the study will be anonymised and remain confidential

☐

10. I agree to take part in the above study.

☐

11. I understand that the interview will be audio / video recorded and I am happy to proceed

☐

12. I understand that parts of our conversation may be used verbatim in future publications or presentations but that such quotes will be anonymised.

☐

Name of Participant

Date

Signature

Name of Researcher

Date

Signature

Name of Person taking consent  
(if different from researcher)

Date

Signature

## Appendix K – UWL drug user interview schedule

- 1) How long have you been a member on XXXX forum?
- 2) Why did you originally decide to join XXX forum?
- 3) What discussion are you involved in on XXXX forum?
  - Prompt: health information, weight loss drugs
- 4) What weight loss strategies have you tried?
  - Prompt: Starting with diet and exercise to excessive caffeine consumption to herbal weight loss products to drugs.
- 5) Are you currently taking UWL drug, if so how long have you been taking?
- 6) How often do you use an UWL drug?
- 7) What other weight loss strategies are you using in conjunction with UWL drug?
  - If UWL drug stopped when did you stop and why?
- 8) Did you consider using any other weight loss strategies in addition to the ones already mentioned?
  - If yes, why did you not use them
- 9) How and where did you first find out about UWL drugs?
- 10) How is UWL discussion viewed on XXXX forum?
  - Prompt by other forum members
  - By the forum moderators
- 11) What information have you been given by other forums members about UWL drugs?
  - Prompt: what to take, what not to take, dosage, side effects, how to take, where to purchase
- 12) What information have you shared with other forums members about UWL drugs?
  - Prompt: what to take, what not to take, dosage, side effects, how to take, where to purchase
- 13) Did you use any other online communities to source information about UWL drugs?
- 14) Can you tell me about the reasons why you started taking DNP/Rimonabant/Sibutramine?
  - Prompt: Did the forum you're a member of influence your decision to take DNP/Rimonabant/Sibutramine?
  - Could you tell me the one main reason why you started using the UWL drug you did?
- 15) What are the best things about using DNP/Rimonabant/Sibutramine?
- 16) What are the worst things about using DNP/Rimonabant/Sibutramine?
  - Prompt: Have you experienced any side effects? Can you discuss those side effects?
- 17) Can you tell me about the places you have purchased UWL drugs from? You don't need to name specific sources.
  - Prompt: Online, shops, friends, family
- 18) Is there any information which would have made you reconsider using DNP/Rimonabant/Sibutramine?
  - Prompt: What types of information?



- Where would you like to have seen this information?
- 19)** Is there any other information you would have liked made available to you around the use of UWL drugs?
- 20)** Who do you think would be the best groups to deliver information around the use of UWL drugs?
- Prompt: Health care professionals
  - Peer educators/other users

## Appendix L – Confirmation of ethical approval

### Study 2. Online forum analysis

Dear Jennifer

With reference to your application for Ethical approval

**15/EHC/028 - Jennifer Brizell, PGR - Exploration of the use of unlicensed weight loss (UWL) drugs in females using Online Environments (James McVeigh)**

Liverpool John Moores University Research Ethics Committee (REC) has reviewed the above application and I am pleased to inform you that ethical approval has been granted and the study can now commence.

Approval is given on the understanding that:

- any adverse reactions/events which take place during the course of the project are reported to the Committee immediately;
- any unforeseen ethical issues arising during the course of the project will be reported to the Committee immediately;
- the LJMU logo is used for all documentation relating to participant recruitment and participation eg poster, information sheets, consent forms, questionnaires. The LJMU logo can be accessed at <http://www.ljmu.ac.uk/corporatecommunications/60486.htm>

Where any substantive amendments are proposed to the protocol or study procedures further ethical approval must be sought.

Applicants should note that where relevant appropriate gatekeeper / management permission must be obtained prior to the study commencing at the study site concerned.

For details on how to report adverse events or request ethical approval of major amendments please refer to the information provided at [http://www.ljmu.ac.uk/RGSO/RGSO\\_Docs/EC8Adverse.pdf](http://www.ljmu.ac.uk/RGSO/RGSO_Docs/EC8Adverse.pdf)

Please note that ethical approval is given for a period of five years from the date granted and therefore the expiry date for this project will be March 2020. An application for extension of approval must be submitted if the project continues after this date.



**Mandy Williams, Research Support Officer  
(Research Ethics and Governance)  
Research and Innovation Services**  
Kingsway House, Hatton Garden, Liverpool L3 2AJ  
t: 01519046467 e: [a.f.williams@ljmu.ac.uk](mailto:a.f.williams@ljmu.ac.uk)

### Study 3. Forum moderator interviews

Dear Jennifer

With reference to your application for Ethical Approval:

**16/CPH/016 - Jennifer Germain, PGR - An exploration of the female use of unlicensed weight loss (UWL) drugs – forum moderator interviews (James McVeigh)**

The University Research Ethics Committee (UREC) has considered the above application by proportionate review and I am pleased to inform you that ethical approval has been granted and the study can now commence.

Approval is given on the understanding that:

- any adverse reactions/events which take place during the course of the project are reported to the Committee immediately;
  - any unforeseen ethical issues arising during the course of the project will be reported to the Committee immediately;
  - the LJMU logo is used for all documentation relating to participant recruitment and participation e.g. poster, information sheets, consent forms, questionnaires. The LJMU logo can be accessed at <http://www2.ljmu.ac.uk/corporatecommunications/60486.htm>
- Where any substantive amendments are proposed to the protocol or study procedures further ethical approval must be sought.

Applicants should note that where relevant appropriate gatekeeper / management permission must be obtained prior to the study commencing at the study site concerned.

For details on how to report adverse events or request ethical approval of major amendments please refer to the information provided at <http://www2.ljmu.ac.uk/RGSO/93205.htm>

Please note that ethical approval is given for a period of five years from the date granted and therefore the expiry date for this project will be June 2021. An application for extension of approval must be submitted if the project continues after this date.

**Mandy Williams, Research Support Officer  
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## Study 4. UWL drug user interviews

Dear Jennifer

With reference to your application for Ethical Approval:

**16/CPH/027 – Jennifer Germain, PGR - An exploration of the female use of unlicensed weight loss (UWL) drugs – weight loss drug user interviews (James McVeigh)**

The University Research Ethics Committee (UREC) has considered the above application. I am pleased to inform you that ethical approval has been granted and the study can now commence

Approval is given on the understanding that:

- any adverse reactions/events which take place during the course of the project are reported to the Committee immediately;
- any unforeseen ethical issues arising during the course of the project will be reported to the Committee immediately;
- the LJMU logo is used for all documentation relating to participant recruitment and participation e.g. poster, information sheets, consent forms, questionnaires. The LJMU logo can be accessed at <http://www.ljmu.ac.uk/corporatecommunications/60486.htm>

Where any substantive amendments are proposed to the protocol or study procedures further ethical approval must be sought.

Applicants should note that where relevant appropriate gatekeeper / management permission must be obtained prior to the study commencing at the study site concerned.

For details on how to report adverse events or request ethical approval of major amendments please refer to the information provided at <http://www.ljmu.ac.uk/RGSO/93205.htm>

Please note that ethical approval is given for a period of five years from the date granted and therefore the expiry date for this project will be November 2021. An application for extension of approval must be submitted if the project continues after this date.